Lucent Technologies
Bell Labs Innovations

Navis™ AnyMedia® Element Management System (NAM)

30 Channel

Software Installation Manual Release 3.2
Update 2

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Ordering information

The order number of this document is 363-211-621 (Issue b).

Technical support

Please contact your Lucent Technologies Local Customer Support Team (LCS) for technical questions about the information in this document.

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About this information product

Purpose

This manual provides the steps necessary for the software installation for Lucent Technologies *Navis™AnyMedia®* Element Management System (NAM) - 30 Channel R3.2 Update 2

The Software Installation Manual is a network oriented manual and will be shipped to all sites where an NAM is available.

Intended audience

The Software Installation Manual is intended for personnel who install the *Navis™AnyMedia®* Element Management System.

The personnel should at least have the following education level:

- computer knowledge (e.g. windows applications and/or SUN applications)
- telecommunication network knowledge.

How to use this information product

The manual is divided into a number of sections (subjects), clearly separated by numbered tabs. The front pages of the guide also describe this division, and list the titles of the subjects together with the corresponding tab numbers.

Through this readers can quickly select the subject of their interests and needs.

- *Table of contents, list of figures, list of tables*
- *Overview*
  Defines the purpose of the document and the intended audience. Also included are topics about the conventions used in the document, related documentation, how to order documents, and how to comment on this document.
- *Chapter 1, Installation overview*
  Contains general informations about the installation procedures.
- *Chapter 2, SUN Solaris installation*
  Describes the installation of the SUN Solaris 9.
- *Chapter 3, NAM installation*
  Describes the NAM installation procedures.
- *Chapter 4, Upgrade from R3.0 to R3.2 Update 2*
  Describes the upgrade procedure of the NAM.

- *Glossary*
  Defines special terms used in this manual.
- *Index*
  Alphabetical index to quickly search for paragraphs in the manual which provide more information on a certain keyword.

Conventions used

Each chapter can be identified by its number.

Cross-reference conventions are identical with those used for numbering, i.e. the first number in cross-references refers to the corresponding chapter.

To facilitate the location of specific text passages, the guide contains so-called keyword blocks. These are placed to the left of the main text and contain either a keyword or a word which indicates the contents of a paragraph or group of paragraphs.

Commands and messages are displayed in *constant-width* font (e.g., *sysdef | grep SEMMNU*).

The trademarks used in this document are identified after the title page. Trademarks of Lucent Technologies and other companies are in italics and the trademarks modify a noun (e.g., the system name contains a trademark, *AnyMedia*™ Access System). A trademark is not treated as an acronym (it is not spelled out or expanded).

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The following table gives examples of the typographical conventions used in this chapter.

Object	Example	Meaning
Keyboard	**Return** or `A`	**Return** or `A` key on the keyboard
	Shift-Ctrl-B	**Shift**, **Ctrl** and **B** key pressed simultaneously
	Esc A B	**Esc**, **A** and **B** key pressed one after the other
Push button	**Apply**	**Apply** push button in a window
Menu	**File** → **Exit**	Menu option **Exit** in **File** menu
Objects in windows	*Date*	Designates the object *Date* in a window (e.g. text field, check box, spin box etc.)

Systems supported

The centralized management of the *Anymedia* network elements is the primary task of the Navis *Anymedia* EMS. Navis *Anymedia* is deployed in all regions of the world, managing narrowband, broadband and IP services, offered by variety of service providers. The specification for hardware requirements are provided in the documentation for Navis *Anymedia* EMS, and are updated as necessary. In respect to the client hardware specifications of the personal computer (PC), the specifics of the resource (CPU/DRAM/Storage/OS) are provided, but not the models to be used as hardware is generic for the most part. In recent case studies in customer environments, where GUI client related JAVA problems were reported, the hardware platforms used and configuration have been found to be the cause of the trouble. It is therefore recommended that customer purchase standard x86 based recommended PC machines and follow configuration steps as provided in the user manual.

The NAM software development organization performs related tests for Client GUI to check interoperability and performance for each release of software produced. The NAM software development organization cannot be made responsible for troubleshooting of JAVA issues reported for client GUI software, as all issues have been found to be related to mis-configuration and hardware used. Lucent Worldwide Services (LWS) offer remote technical support and on-site trouble analysis services.

Related documentation

The following is orderable documentation related to the *AnyMedia* Access System and for additional components. For the ordering address see "How to order" (p. xi).

Component	Manual Type	Comcode	CIC Ordering Number
AnyMedia Access System	Applications and Planning Guide (APOG), Overview	109 562 744	363-211-585 ([1], [2])
	Applications and Planning Guide (APOG), Narrowband and ATM xDSL services	109 562 751	363-211-586 ([1], [2])
	Applications and Planning Guide (APOG), IP-based services	109 562 769	363-211-587 ([1], [2])
	Data Sheet book	109 218 651	363-211-151 ([1], [2])
	Ordering Guide	108 097 782	363-211-144 ([1], [2])
	Commands and Procedures for narrowband services with TDM COMDAC	109 105 635	363-211-119([1], [2])
	Commands and Procedures for ATM xDSL services	109 024 737	363-211-133([1], [2])
	Installation Manual for DC-Powered Racks for ETSI V5 and LAG 1900 Shelves		363-211-603 ([1], [2])
	Installation Manual for AC-powered racks	109 024 745	363-211-206 ([1], [2])
	Installation Manual for the Mainshelf and DC-powered racks	109 024 752	363-211-207 ([1], [2])
	ONU Installation Manual for Indoor Applications	108 626 367	363-211-150 ([1], [2])
	AnyMedia® LAG 4300 System, Installation Manual (IM)	109 461 939	363–211–256 ([1], [2])
	Customer Documentation on CD-ROM	108 298 787	363-211-114 ([1])
Navis™*AnyMedia*® Element Management System (NAM) 30 Channel, Release 3.2 Update 2	User Service Manual	109562744	363-211-620
	Software Installation		363-211-621
	Customer Documentation on CD-ROM	109562793	363-211-622

Notes:

1. For the ordering address see “How to order”.
2. This information product is accessible from the Lucent Technologies’ internal webpage: http://access.de.lucent.com/ACCESS/cdoc/index.html

Print copy (hard copy)

All listed documents are available in print.

CD-ROM

The Customer Documentation on CD-ROM is available in PDF format and an Adobe Acrobat Reader (registered trademark of Adobe Systems Incorporated) is provided to view them.

CD-ROM	Ordering Number
Navis™AnyMedia® Element Management System (NAM) R3.2 Update 2, Customer Documentation on CD-ROM includes: User Service Manual (USM) and Software Installation Manual	363-211-622

How to order

The ordering number for the *Software Installation Manual* is 363-211-621.

To order additional hard copies of this document and/or to request placement on the standing order list, send or call in an order as follows.

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1 Installation overview

Overview

Purpose

This chapter gives general informations about the installation procedures.

Contents

Introduction	1-2

Introduction

General

The NAM R3.2 Update 2 runs with Solaris 8 or Solaris 9. The Solaris patches recommended by SUN and specific patches for NAM have to be installed.

In order to successfully install the NAM for the SUN Solaris installation the following has to be taken into account:

- *Disk partitioning*: HDD partitioning should include, in addition to the standard UNIX entries (e.g. /, /usr, /var, etc.), two entries for the NAM software and the transaction.log. Additionally a temporal directory with 2 Gbytes is necessary for uncompressing the installation files.
- *Swap space*: The rule of thumb for the swap disk space requirements is that the physical RAM memory plus the swap disk space should add up to at least 8 GB. Another restriction is that the swap disk space must be at least the same size as the RAM memory (for example 4 GB RAM memory with 4 GB swap disk space, etc.). The available RAM memory depends on the used Hardware
- *LAN & WAN configuration*: E.g. default router to NEs, etc. must be available.

SUN Solaris installation

How to install SUN Solaris is described in Chapter 2, “SUN Solaris installation”.

Assumptions

For the following description it is assumed that

- the hardware required to install the NAM is prepared
- the NAM consists of a number of server and client applications. The software installation may imply the installation of all these applications or only some of them.
- the NAM includes as part of its environment the Java Runtime Environment (JRE) Release 1.4 (higher maintenance versions are also valid). JRE is included here free of charge for the final user.

Intended audience

This document is intended as a guide for the person(s) who will be responsible for the installation and configuration of the hardware and software required for the NAM installation.

Distribution media

The NAM distribution can be divided into two parts, server-side installation and client-side installation. Both include specific third-party applications needed to run the NAM successfully. The server side application includes obligatory modules and optional ones which will be installed depending upon the customer needs.

The NAM distribution media is on CD-ROMs which contain all the software plus information and installation scripts.

The following lists show the full NAM distribution trees which consist in directories with the installation/remove scripts plus the installation and licensing documents. Subdirectories named *AnyMediaEMR3.2_30* contains the software which is divided in several packages. A package contains a collection of files and directories required for the application and scripts to control how, where and if the package is installed. These were built using the application packaging tools offered by Solaris (refer to your SUN documentation for more information).

Installation scripts

The *install_AEM* scripts run in the korn shell <ksh> environment. The *AnymediaPCInstall_R3.2_GA.exe* runs on Microsoft Windows NT 4.0, Windows 2000 and Windows XP.

TCP ports

The following TCP ports *must* be available in order to successfully run the NAM:

- 1570: Orbix daemon uses the TCP port 1570 in order to wait for incoming connections that use the Orbix protocol.
- 1591 to 1641: As CORBA servers are activated by the Orbix daemon, they are assigned to a port that clients can communicate with.

It is essential that these ports are not used by any process on the same subnet domain.

Ping

Ping services have to be activated in a firewall, otherwise problems in the connection to the network elements can occur.

Reducing number of ports

TL1 messages to/from the COMDAC are transported over TCP/IP. The third party tool LUMOS is relying on the underlying platform, the Solaris Operating System, for setting up the connections to the COMDAC. On the COMDAC side ports used are restricted from 11001 to 11008. However, by default on the NAM side this range of ports is extremely wide, going from 32768 up to 65535. This enforces firewalls to be transparent to a wide range of ports thus making the security of the UNIX system poor.

To retrieve the current range of dynamic ports enter as root:

- `ndd /dev/tcp tcp_smallest_anon_port 32768`
- `ndd /dev/tcp tcp_largest_anon_port 65535`

This range of ports can be reduced after the machine is rebooted by adding the following lines in the /etc/rc2.d/S69inet file. This file will be executed at server start-up.

```
# Dynamic TCP ports range definition.
```

```
/usr/sbin/ndd -set /dev/tcp tcp_smallest_anon_port 40000

/usr/sbin/ndd -set /dev/tcp tcp_largest_anon_port 45000
```

This is an example of restricting TCP ports from 40000 to 45000.

For the AFMs, the similar situation applies. AFM-side ports are restricted to 161 (SNMP protocol) and 162 (SNMP-TRAP protocol). But on the NAM side they are dynamically assigned as well, going from 32768 up to 65535.

To retrieve the current range of dynamic ports enter as root:

- `ndd /dev/udp udp_smallest_anon_port 32768`
- `ndd /dev/udp udp_largest_anon_port 65535`

This range of ports can be reduced after the machine is rebooted by adding the following lines in the /etc/rc2.d/S69inet file. This file will be executed at server start-up.

```
# Dynamic UDP ports range definition.

/usr/sbin/ndd -set /dev/udp udp_smallest_anon_port 40000

/usr/sbin/ndd -set /dev/udp udp_largest_anon_port 45000
```

As a summary these are the ports used between NAM and NEs (COMDACs/AFMs/IPCMs). These ports do not apply between NAM server and clients other protocols will be used (CORBA, X-Windows, ...):

COMDAC ports:

- TL1 (over TELNET, over TCP): 23, 11001, 11003, 11005, 11007
- TL1 (over Virtual Channels (vc), over TCP): 11002, 11004, 11006, 11008
- FTP (over TCP): 21
- ICMP (ping) (over IP): uses no port.

NAM ports:

- TCP: tcp_smallest_anon_port .. tcp_largest_anon_port
- UDP: udp_smallest_anon_port .. udp_largest_anon_port
- TELNET (over TCP): 23
- ICMP (ping) (over IP): uses no port.

AFM traps range:

Traps are received on ports dynamically allocated for each instance of TMS as follows:

port number = 15000 + DMGId

The DMGId depends on:

- the type of BB AMUs installed
- the number of BB AMUs instances running

AMU TYPE	DMGId of 1st DMG of additional AMU instance AMU instances	
AMU_DATA_B	600	601,602,603, ...,611

IPFM traps range:

Traps are received on ports dynamically allocated for each instance of TMS as follows:

port number = 15000 + DMGId

The DMGId depends on:

- the type of IP AMUs installed
- the number of IP AMUs instances running

AMU TYPE	DMGId of 1st DMG of additional AMU instance AMU instances	
AMU_IP_A	700	701,702,703, ...,711

Time zone

The time zone *must* be GMT for the *AnyMedia*® client <GUI>, LUMOS, and OS.

Update process environment

Since the number of NAM processes is so high, further process environment customization is needed on the server (related to IPC semaphores). Carry out the following command to verify the value of the SEMMNU parameter:

```
sysdef | grep SEMMNU
```

The output of this command is like this:

```
30 undo structures in system (SEMMNU)
```

If the number appearing (e.g. 30) is less than 200 or you got no output, edit the **/etc/system** file by adding the following line at the end of the file:

```
set semsys:seminfo_semmnu=200
```

Reboot the server workstation.

□

2 SUN Solaris installation

Overview

Purpose

This chapter describes the installation of the SUN Solaris 9.

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Software requirements

General

Before installing the NAM software the following software must be installed on the server and clients:

- *Solaris 9 Operating System*.
- *Sun Solaris Country Code*. In order to avoid incompatibilities with the NAM locale, the North America Country Kit should be used.
- Official Solaris 9 patches. If using a periodically distributed CD-ROM from Sun check the compilation is newer than June 29th, 2004:
  - Recommended patch cluster for Solaris 9 (see SunSolve web page at *http://sunsolve.sun.com/pub-cgi/show.pl?target=patches/patch-access*).
  - J2SE Patches for Solaris 9.

    NOTE: All these patches are also included in CD #1 of the NAM distribution. Most of these patches may already be included in the recommended patch cluster for Solaris 9. Check the list of patches contained in the cluster in order to install only the missing ones.

□

Introduction

General

Servers already deployed with installed NAM software prior to R3.2 Update 2 and running under Solaris 7 Operating will need to perform an initial installation of the Solaris 9 Operating System instead of upgrading it from the previous version. In this case, it will be necessary to back up relevant NAM information (cf. Chapter 4, “Upgrade from R3.0 to R3.2 Update 2”).

NAM R3.2 Update 2 software does not need NIS/NIS+, DNS or NFS to run. The decision to use these features will depend entirely on the customer as well as their installation, setup and maintenance. The only requirement is to guarantee CORBA protocol (over TCP/IP) interconnectivity between each client and the server. Some firewalls may block some user ports enabled specifically for the CORBA protocol.

All the procedures described below must be carried out as UNIX system administrator (root user).

□

OS installation

General

Before starting the Solaris 9 Operating System installation, some system data must be known beforehand. This information includes the system host name, IP address and subnetwork mask as well as the routing table to interconnect the server to the rest of the network.

It is also strongly recommended to perform an operating system full backup (at UNIX level) on a tape device or any other non-volatile media. Therefore the user is able to roll-back the system to the original status if necessary. See the Solaris 9 Installation Manual.

Procedure

Complete the following procedure to install Solaris.

1 Insert the Solaris 9 Operating System CD in the CD-ROM drive.

2 The system must be booted from the CD-ROM drive instead of the hard disk. If the system has already started to boot from the hard disk then press **Stop+A** (Stop and A keys simultaneously) to stop the process. Otherwise, if the system is currently running Solaris (i.e. CDE environment), halt the system first by entering the following command as root:

```
init S
```

3 At the prompt (`ok>`), enter the command:

```
boot cdrom
```

4 Once the system reboot finishes, the installation starts automatically. During the installation process it will be necessary to enter the following system configuration data.

For Solaris 9:

- Language: English (pick 0)
- Locale (Country Code): NAM software requires English-USA locale (ASCII or ISO8859-01)
- Networked: `yes`
- Use DHCP: `no`
- System host name: `<host name>`
- System IP address: `<ip_address>`
- System part of a subnet `yes`

- Netmask: `<network_mask>`
- Use IPv6: `no`
- Default route `specify one`
- Route IP address `<default router>`
- Security: `no`, Confirm Kerberos Security `no`
- Name Service: `none`
- Time Zone: NAM software requires GMT. Specify the timezone by *Offset GMT* and enter the value 0.
- Date and Time `<Current local date & time>`
- Kind of installation: `Initial Installation`. This option will format the hard disk completely.
- Choose `Standard Solaris Distribution` for the installation.
- Select `Geographic Region`
- Select to include Solaris 64-bit support. Choose `Entire Distribution plus OEM 64-bit`
- Preserve Data: `no`
- Add the hard disk available appearing in the screen.
- Layout: choose `Manual Layout` and `Customize` to enter the next layout:

Partition Name	Size (Mb)
/	512
swap	4 GB or higher, depending on RAM [1]
overlap	Choose the default value (normally the size of the hard disk)
/var	512
/usr	2048
/var/cache	512
/homelocal	4 GB
/opt	6.5 GB (The rest of the free disk space)

Notes:

1. Swap space: The rule of thumb for the swap disk space requirements is that the physical RAM memory plus the swap disk space should add up to at least 8 GB. Another restriction is that the swap disk space must be at least the same size as the RAM memory). Possible combinations are: 2 GB RAM memory with 6 GB swap disk space, 4 GB RAM memory with 4 GB swap disk space, etc.

5 Start the Operating System installation process. This may take a long time. When the installation is finished the system must be rebooted (this will be done automatically if *Automatic Reboot After Installation* was chosen).

6 Select *root* password

7 Disable *automatic power-saving shutdown*

8 Install the appropriate drivers for the workstation graphical card if needed (e.g.. Raptor GFX graphic card drivers). Consult the manufacturer's user manual for the correct installation of the drivers.

9 To be able to continue with the procedure remotely, lift root login and ftp restrictions if desired.

Telnet: comment out the CONSOLE variable in file */etc/default/login*

Ftp: comment out *root* in file */etc/ftpd/ftpusers*

END OF STEPS

□

Patches installation

General

The 9_Recommended.zip and the J2SE_Solaris_9_Recommended.zip patch clusters must be installed at this step, also in single user mode *(init S)*. It is recommended to install the 9_Recommended cluster in first place since most of the J2SE patches may already be included. Check in particular the presence of these patches. In case any of them is missing, proceed to download and install it individually:

64 bits (recommended):	111712-12	111722-04	
32 bits:	111711-12	111703-03	111722-04

NOTE: a patch cluster is a set of patches. A patch consists of two parts separated by a dash, the patch code number and the revision number (e.g. patch number 107226-17 is revision 17 of the patch code number 107226).

Procedure

Complete the following procedure to install the patches for Solaris 9.

1 Patches downloaded directly from Sun's homepage are normally compressed as ZIP files. Uncompress each patch or cluster by entering the following:

```
# unzip <filename>
```

This will create a directory with the same name as the patch. For other file extensions use the appropriate tool to uncompress the file.

2 To install the Recommended Patch Cluster for Solaris 9 enter the following:

```
# cd <cluster_directory>
# ./install_cluster
```

3 To install a single patch enter the following:

```
# patchadd -d <patch_directory>
```

4 Use the next command to check whether a patch has been correctly installed in the system or not:

```
# showrev -p | grep <patch_code_numbers>
```

NOTE: the revision of the patch must be the same or higher than the required one.

END OF STEPS

README.file

Every patch or cluster contains a README file. When the installation of the patch requires specific instructions different from the ones given above, always follow the instructions detailed in the file.

□

Networking

General

It is necessary to set up the operating system with the router (or routers) that connect the NAM subnetwork with the rest of the *AnyMedia*® network elements.

Procedure

Follow the next steps to set up the networking on the NAM server and each client:

1 Edit the*/etc/defaultrouter* file (create this file if it does not exist) and include the name of the router (or routers - in the Solaris 9 Operating System it is possible to enter multiple entries in the*/etc/defaultrouter* file (one default router per line)) to be added. This file should contain an entry for each router directly connected to the network.

2 Edit the*/etc/hosts* file and include the name and the IP address of each default router (one entry per line):

```
<router_ip_address> <router_name>
```

3 Execute the command for each default router:

```
# route add default <router_ip_address>
```

4 Execute the following command to check the new configuration in the routing table:

```
# netstat -rn
```

END OF STEPS

For the correct interconnectivity between the NAM server and the UNIX clients (this does not apply to PC clients running under Windows NT 4.0, Windows 2000 and Windows XP), the server must be able to resolve each client address by its hostname and vice versa.

1 Edit the*/etc/hosts* file on the server and add the IP addresses of all the UNIX clients:

```
<client1_ip_address> <client1_hostname>

<client2_ip_address> <client2_hostname>

.......
```

2 Edit the*/etc/hosts* file on each UNIX client and add the IP address of the server:

```
<server_ip_address> <server_hostname>
```

END OF STEPS

On PC clients edit the*Hosts* file located under the installation directory of the Windows Operating System (e.g.: *C:\WINNT\system32\drivers\etc* for NT 4.0, Windows 2000 and Windows XP Pro) and add the IP address of the server:

1 `<server_ip_address> <server_hostname>`

Important! The `<server_hostname>` is case sensitive!

END OF STEPS

□

Update process environment

General

Since the number of NAM processes is higher than the default environment configuration, further customization is needed on the server.

Procedure

Follow the next procedure:

1 Verify the value of the SEMMNU parameter by entering the following command:

```
# sysdef | grep SEMMNU
```

The output of this command is like this:

```
30 undo structures in system (SEMMNU)
```

2 If the number displayed is less than 200 or you got no output in step 1, edit the */etc/system* file and append the following line at the end of the file:

```
set semsys:seminfo_semmnu=200
```

END OF STEPS

□

How to create UNIX accounts

General

Before installing the NAM application it is necessary to create a new UNIX user and group on the server. This account will be associated to the NAM administrator. Although the user and group names can be anything, choosing *anymedia* as user and *lucent* as group will simplify the installation of the NAM software since there is a default installation ready for this case.

Procedure

1 As root enter `admintool` in the command line.

2 Create a new group (i.e. `lucent`).

3 Create a new user (i.e. `anymedia`) assigned to the previous group. The new user shell type must be ksh (Korn Shell). Enter also the home directory for this user (i.e. `/homelocal/users/anymedia`).

END OF STEPS

NAM does not rely solely on UNIX for access control, but implements its own security database. Thus, it offers a uniform access to the GUI regardless of the underlying platform (UNIX or Windows based). NAM user login and password are independent of UNIX accounts, although obviously it is mandatory to have access permissions for the machine. Only the NAM administrator user, declared during the installation phase, will also need to be a UNIX user, as it will own NAM processes and files. In order to prevent inappropriate use of NAM administrator privileges, it is highly recommended to create at least one additional UNIX user. This account could be shared by the rest of the NAM users to gain access to the client machine.

□

User Environment

General

In order to provide a suitable environment, NAM installation prompts the user on whether he/she wants to include a call to the *AnyMedia.sh* script in the administration user default profile, which sets up automatically all necessary variables. Otherwise, the script will need to be run manually before starting

□

Graphical Environment

General

You will be prompted on your first graphical login screen for each UNIX session to select the default desktop. The NAM Graphical User Interface requires the CDE environment to run.

On machines where the GUI client is installed, it is necessary to set the screen resolution to 1280 × 1024, which must be physically supported by the monitor. To check the current configuration, run as root:

```
/usr/bin/m64config -prconf
```

and if the value is lower than 1280:

```
/usr/bin/m64config -res 1280
```

A reboot will be necessary to activate the configuration change.

□

3 NAM installation

Overview

Purpose

This chapter describes the NAM installation procedures.

Contents

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Installation procedure

General

The NAM distribution includes one installation script called *install_AEM* which shall be used for full installation. Also, the script can be used to install individual packages (it will detect if any package is not installed and ask the user to install it) - cf. “Installing individual packages” (p. 3-52).

This guide shows the flow of the installation - according to the interaction with the administrator - using the installation script provided in the distribution.

Common tasks

Common actions must be make in both cases, as follows:

- You need to be logged on as *root*.
- Get ready your distribution medium:

Insert and mount the CD-ROM

Insert and mount the CD. If the machine is running the *vold*, it will recognize that the CD is in place and mount it on */cdrom/AnyMediaEMR3.2_30* (depending on your system configuration, */cdrom/AnyMediaEMR3.2_30* might have to be replaced with a different device name). Depending on the configuration of *vold* you may have to append a trailing dot (“.”) to references to file names on the CD. This is due to *hsfs* imposing a suffix on the file names. If the machine is not running the *vold*, type:

```
# mount -F hsfs -o ro,notraildot

/dev/dsk/c0t6d0s2/cdrom
```

The device identifier c0t6d0s2 is configuration dependent, and as such will vary from machine to machine. This will mount the CD on **/cdrom** (depending on your system configuration, **/cdrom** might have to be replaced with a different mount point. For more information about on how to mount a CD-ROM drive refer to your SUN documentation.

□

Full installation

General

This type of installation uses the **install_AEM** script in order to install all packages contained in the distribution.

For the following description it is assumed that:

- The hardware and software requirements to install the NAM are prepared
- NAM software is not installed on target machine
- Common actions showed above have been made
- A new user is already created.

Note: Lines with indentation are the system responses. They are included here to guide the installation procedure.

□

Installation overview

Overview

There are two types of default installations (cf. “Installation procedure (default installation)” (p. 3-5)): default installation for administration (cf. Step 1 to Step 25) and default installation for GUI (cf. “Client package” (p. 3-23)).

Preconditions

Values for the administration default installation:

- user: **anymedia** (present on the system)
- group: **lucent** (present on the system
- installation directory: **/opt/lucent**.

Values for the GUI default installation:

- user: **anymedia** (present on the system)
- group: **lucent** (present on the system
- GUI and servers will be installed in the same machine → Hostname = current machine.
- Login for CutThrough functionality: **cutthru**
- Password for CutThrough functionality: **cutthru**
- Name of the location: **AnySite**
- GUI shutdown will be executed every day at **2.00 am**.
- period of time that GUI will be up before activating the shutdown: **12 hours**
- period of idleness allowed on GUI: **2 hours**.

If the GUI is not installed in the same machine as the server (for example on a PC) the time zone in the GUI machine must be GMT. The time zone can be modified in *SystemPreferences.ini*.

AMUs installation

The Agent Management Units (AMUs) must be installed in the same machine as the administration default installation.

□

Installation procedure (default installation)

Start installation

Complete the following procedure to install the common software parts (default).

1 Go to the directory where the installation script is placed on CD-ROM.

2 Type `./install_AEM 30` and press **Return**.

```
Navis AnyMedia EM R3.2 installation

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**Pre-requisites**

1.- Before attempting to install the application, please, read the
readme.txt file.

2.- Navis AnyMedia EM R3.2 runs on SUN SPARC Solaris 2 computers running
Solaris 2.9, plus security Y2000 patches as it is indicated in SRD.pdf
document

3.- TCP ports:

The following ports MUST be available in order to successfully run the
Navis AnyMedia EM:

* 1570: Orbix daemon uses the TCP port 1570 in order to wait for
incoming connections that use the Orbix protocol.

* 1591 to 1641: As Corba servers are activated by the Orbix daemon, they
are assigned a port so that clients can communicate with it.

It is essential that these ports are not used by any process on the SAME
SUBNET DOMAIN.

4.- The install_AEM script runs on K-shell <ksh> environment.

5.- At least the system environment variable PATH MUST include the paths
/usr/bin, /usr/sbin and /usr/ucb (for instance, export
PATH=$PATH:/usr/bin/:/usr/sbin:/usr/ubc).

******************

**DEFAULT-INSTALLATION-VALUES**

Base Path= /opt/lucent

Owner=anymedia, Group=lucent

Navis AnyMedia EM R3.2 installation

Copyright 1999-2005 Lucent Technologies.
```

```
All Rights Reserved.

Please, choose the installation mode

1 ADM <Administration package>

2 GUI <Client package>

3 NB <Narrow Band package>

4 BB <Broad Band package>

5 IP <IP package>

6 EXIT <End installation>

Enter selection [?,??,q]:
```

Type `?` to get help, type `??` to repeat the prompt and type `q` to exit from the installation.

END OF STEPS

Administration package

1 Type 1 and press **Return**

```
<Server IP address> has been the chosen server

Checking your domain name...

The DNS domain name found was: <domain name server>

Would you like to customize installation [y,n,?,q]
```

2 Type n and press **Return**

```
##Packages to install: LuLUMRT, LuRWRT, LuOXRT, LuOSRT, LuAdmin

Processing package instance <LuLUMRT> from
</cdrom/cd1/AnyMediaEMR3.2_30>

Lumos Runtime for AnyMedia EM R3.2 (sparc-solaris) Build 3.0 run-time

Using </> as the package base directory.

## Processing package information.

## Processing system information.

Installing Lumos Runtime for AnyMedia EM R3.2 as <LuLUMRT>

## Installing part 1 of 1.

<files list>

.............
```

```
[ verifying class <none> ]
## Executing postinstall script.
You have the installation logfile in /tmp/EM_Install.log_423
Installation of <LuLUMRT> was successful.
Processing package instance <LuRWRT> from </cdrom/cd1/AnyMediaEMR3.2_30>
RogueWave Libraries Runtimes for AnyMedia EM R3.2 (sparc) std0130u
thr0130u tls0710u tpr0112u
Using </> as the package base directory.
## Processing package information.
## Processing system information
Installing RogueWave Libraries Runtimes for AnyMedia EM R3.2 as <LuRWRT>
## Installing part 1 of 1.
<files list>
.............
[ verifying class <none> ]
## Executing postinstall script.
You have the installation logfile in /tmp/EM_Install.log_8894
Installation of <LuRWRT> was successful.
Processing package instance <LuOXRT> from </cdrom/cd1/AnyMediaEMR3.2_30>
Orbix 3.3 SP 7 Runtime for AnyMedia EM R3.2 (sparc-solaris) 3.3 SP 7
Runtime
Using </> as the package base directory.
## Processing package information.
## Processing system information.
Installing Orbix 3.3 SP 7 Runtime for AnyMedia EM R3.2 as <LuOXRT>
## Installing part 1 of 1.
<files list>
.............
[ verifying class <lib> ]
## Executing postinstall script.
You have the installation logfile in /tmp/EM_Install.log_8897
Installation of <LuOXRT> was successful.
Processing package instance <LuOSRT> from </cdrom/cd1/AnyMediaEMR3.2_30>
```

```
ObjectStore 6.1 SP2 Runtime for AnyMedia EM R3.2 (sparc-solaris) 6.1
Runtime

Using </> as the package base directory.

## Processing system information.

## Processing package information.

Installing ObjectStore 6.1 SP2 Runtime for AnyMedia EM R3.2 as <LuOSRT>

<files list>

.............

[ verifying class <none> ]

## Executing postinstall script.

*****************************************************

* Remember execute "osconfig" to set the environment *

*****************************************************

You have the installation logfile in /tmp/EM_Install.log_8930

Installation of <LuOSRT> was successful.

Object Store configuration

The ObjectStore server on host <server name> is not available.

Are you installing on a server with more than 1 disk array (e.g. Sun
v480) [y,n,?,q]
```

3 Type y and press **Return**

```
*********************************************************************

It is recommended that the transaction log pathname will be located in a
physical disk different from the rest of the NAM installation.

*********************************************************************

Please take down the path for the transaction log and press enter to
continue...

The default copy of ObjectStore to configure is in

/opt/lucent/ObjectStore.

Is this the copy that you want to configure? [yes]
```

4 Press **Return**.

```
ObjectStore includes shared libraries. For ObjectStore applications and
utilities to work, the dynamic linker must be able to find them.
```

```
The recommended arrangement is to have symbolic links in /usr/lib to the
shared libraries.

If you choose not to make these links, then you will have to instruct
all ObjectStore users to add /opt/lucent/ObjectStore/lib to their
LD_LIBRARY_PATH environment variable.

WARNING:: ObjectStore libraries already exist in /usr/lib. If you choose
not to make links in /usr/lib for the new libraries, ObjectStore users
may incorrectly link with old libraries

Do you want to create links to ObjectStore libraries in /usr/lib? [yes]
```

5 Press **Return**.

```
Since you have requested a File-database configuration, you must give a
pathname for the transaction log file. Please enter the transaction log
pathname
```

Note: Depending on the number of NEs in the network the transaction log file can consume much memory space. The path in the following step is an example for installing transaction log under the main installation path. This is recommended if the number of NEs in the network is low. Otherwise the transaction log file should be put into a **separate partition**. In this case the corresponding path has to be used for the following step.

6 Type the path you want to create the transaction.log file.
E.g./`opt/lucent/transaction.log` and press **Return**.

```
Since no RAWFS was requested the program schema must be stored in the
local filesystem

Please specify the directory where the program schema databases will be
stored.

[ default /opt/lucent/ObjectStore/lib/ ]:
```

Press **Return**.

7 `You have configured this machine to run an ObjectStore server. The server's transaction log is in /opt/lucent/transaction.log.`

`Do you want to proceed? [yes]`

8 Press **Return**.

`Writing configuration files and initializing the server, please wait...`

```
The transaction log in /opt/lucent/transaction.log is apparently
uninitialized. Do you want to initialize /opt/lucent/transaction.log
now? [yes]
```

9 Press **Return**.

```
040702 143512.042 ObjectStore Release 6.1 Service Pack 2 Database Server

040702 143512.052 LOG 0001 There are no partitions specified in the
parameters file.

Only file databases will be accessible through this server.

Transaction log initialization complete.

040702 143516.033 ObjectStore Release 6.1 Service Pack 2 Database Server

The ObjectStore server is running.

Running ossetasp on program schema databases.

ossetasp /opt/lucent/ObjectStore/lib/liboscol.so
<servername>:/opt/lucent/ObjectStore/lib/liboscol.adb

ossetasp /opt/lucent/ObjectStore/lib/libosqry.so
<servername>:/opt/lucent/ObjectStore/lib/libosqry.adb

ossetasp /opt/lucent/ObjectStore/lib/libosse.so
<servername>:/opt/lucent/ObjectStore/lib/libosse.adb

ossetasp /opt/lucent/ObjectStore/lib/liboscmp.so
<servername>:/opt/lucent/ObjectStore/lib/liboscmp.adb

ossetasp /opt/lucent/ObjectStore/lib/libosalloc.so
<servername>:/opt/lucent/ObjectStore/lib/os_alloc.adb

ossetasp /opt/lucent/ObjectStore/bin/osload
<servername>:/opt/lucent/ObjectStore/lib/osload.adb

ObjectStore includes a server daemon which must be running for any
application to access an ObjectStore database.

It is recommended that you auto-start the daemon via commands in your
operating system startup scripts.

If you do not configure automatic startup, you will have to start the
server daemon by hand, or re-run this utility to configure auto-start.

Would you like to configure automatic server startup and shutdown? [yes]
```

10 Press **Return**.

```
Successfully created /etc/rc2.d/S80ostore4.

Successfully created link from /etc/rc2.d/K80ostore4 to
/etc/rc2.d/S80ostore4.
```

```
Note that you must manually remove or edit existing ObjectStore scripts
in /etc/rc2.d in some situations:

To run only current or previous version's file database clients, remove
all scripts from the previous version in /etc/rc2.d.

To run different version's clients with their corresponding Servers, see
the documentation on editing your OS_ROOTDIR/etc/ports file.

Please set the environment variable
OS_META_SCHEMA_DB=<servername>:/opt/lucent/ObjectStore/lib/metaschm.db
for any clients of server <servername>.

This script will now verify the configuration:

The ObjectStore server on host <servername> is alive.

The ObjectStore Server daemon process on <servername> is accessible.

Verifying schema databases on <servername>.......

Schema databases are accessible.

The cache manager launcher (/opt/lucent/ObjectStore/lib/oscminit6) has
correct modes and ownership.

ObjectStore configuration completed.

Processing package instance <LuAdmin> from
</cdrom/cd1/AnyMediaEMR3.2_30>

AnyMedia Element Manager System Administration Release 3.2 (sparc)
LuAdmin_70.3.4

******************************************************

* AnyMedia Element Manager *

* Copyright 1999-2005 Lucent Technologies. *

******************************************************

Using </> as the package base directory.

## Processing package information.

## Processing system information.

Installing AnyMedia Element Manager System Administration Release 3.2 as
<LuAdmin>

## Installing part 1 of 1.

<files list>

.............

[ verifying class <common> ]

## Executing postinstall script.
```

```
Orbix 3.3

OrbixNames Java Utilities version 3.3 Service Pack 7 TP_14for JDK
1.2.x/1.3.x/1.4.2

Checking AnyMedia EM R3.2 naming contexts

Starting CreateNER_db process...

Getting the AnyMedia installation path...

OK

Getting NER data base path

Creating NER data base

Creating NER groups root

Creating NER NEs root

Creating NER Agents root

OK

exit OK

Starting AMDbPopulate process...

Getting the AnyMedia installation path...

OK

Getting Alarm data base path

OK

Creating Alarm Data Base...

Db path:/opt/lucent/AnyMediaEM_R3.2/AM/db/AlarmDataBase.db

exit OK

Starting NPBDbPopulate process...

Creating DataBase: NPBDataBase.db

<databases list>

.............

exit OK

Starting PCDbCreate process...

OK

exit OK

Getting the AnyMedia installation path...

using application_schema_pathname =
/opt/lucent/AnyMediaEM_R3.2/Security/db/SECDbSchema.adb
```

```
CREATE scenario
New Security database successfully created.
SECDbPopulate finished.
Reading configuration vars ...
Checking SIDServer is not running ...
Checking another SIDDbPopulate running ...
Creating SID Data Base...
SID database created successfully.
exit OK
Starting CreateSCH_db process...
Getting the AnyMedia installation path...
OK
Getting SCH data base path
Creating SCH data base
OK
exit OK
15440 Killed
orbixd daemon pid=15440 have been killed.
15446 Killed ns daemon pid=15446 have been killed.
Package <LuOXRT> OrbixMT 3.3 SP 7 Runtime has been found in
/opt/lucent/OrbixMT
Package <LuOSRT> ObjectStore 6.1 Service Pack 2 Runtime has been found
in /opt/lucent/ObjectStore
Package <LuRWRT> RogueWave Tools and Threads std0130u thr0130u tls0710u
tpr0112u has been found in /opt/lucent/rw
**********************************************
* Please execute *
* ". AnyMediaEM.sh" to set the environment *
**********************************************
You have the installation logfile in /tmp/EM_Install.log_783
Installation of <LuAdmin> was successful.
***Boot processes***
Do you want to install the SystemAdmin process on the system boot
[y,n,?,q]
```

11 Type y and press **Return**

```
SystemAdmin will be placed on the system boot

Clean-up tasks for the AnyMedia-EM system will be executed every day at
2.00 AM. Would you like change it [y,n,?,q]
```

12 Type n and press **Return**

```
Backup process will be executed every Saturday at 11:30 PM. Would you
like change it [y,n,?.q]
```

13 Type n and press **Return**

```
Archive process will be executed every Saturday at 11:00 PM. Would you
like change it [y,n,?.q]
```

14 Type n and press **Return**

```
_____________________________________________________________

CONFIGURE NUMBER OF INSTANCES FOR AMUs

_____________________________________________________________

Input the number of instances for each AMU. Maximum total is 20
```

One instance is equivalent to 100 NEs.

NOTE: The higher the number of instances you enter, the higher number of processes, the more machine performance is needed.

```
Please, select the release

1 NB_R16 AMUs: 0

2 DATA_B AMUs: 0

3 IP_A AMUs: 0

4 end total AMUs:

Enter selection [?,??]:
```

15 Type 1 for definition of number of NB AMUs and press **Return**

```
How many AMUs do you wish? [?]
```

16 Type e.g. 1, which is equal to a maximum of 100 NB agents and press **Return**

```
Please, select the release
```

```
1 NB_R16 AMUs: 1
2 DATA_B AMUs: 0
3 IP_A AMUs: 0
4 end total AMUs: 1
Enter selection [?,??]:
```

17 Type 2 and press **Return**

```
How many AMUs do you wish? [?]
```

18 Type e.g. 1, which is equal to a maximum of 100 BB agents and press **Return**

```
Please, select the release
1 NB_R16 AMUs: 1
2 DATA_B AMUs: 1
3 IP_A AMUs: 0
4 end total AMUs: 2
Enter selection [?,??]:
```

19 Type 3 and press **Return**

```
How many AMUs do you wish? [?]
```

20 Type e.g. 1, which is equal to a maximum of 100 IP agents and press **Return**

```
Please, select the release
1 NB_R16 AMUs: 1
2 DATA_B AMUs: 1
3 IP_A AMUs: 1
4 end total AMUs: 3
Enter selection [?,??]:
```

21 Type 4 and press **Return**

```
_____________________________________________________

SET VALUES FOR CONFIGURABLE NUMBER OF PROCESSES

_____________________________________________________

How many clients will be configured in the system ?
```

```
1 low ( 1 to 10 clients )

2 med ( 11 to 20 clients )

3 max ( 21 to 30 clients )

Enter selection [?,??]:
```

22 Type 1 and press **Return**

Note: The higher number of clients you enter the more machine performance is needed.

```
Number of processes set to low.

Do you agree with your selection? (Default: y) [y,n,?]
```

23 Type y and press **Return**

```
Adding selected AMUs to NarrowBand and Broadband packages ...

OK.

Creating common structure of ModuleGroupTypes, ModuleTypes and Services
...

OK.

Adding NB R1.6 instance number 1 ...

OK.

Adding DATA B instance number 1 ...

OK.

Adding IP A instance number 1 ...

OK.

Completing configuration ...

OK.

SADbPopulate.cfg customization successfuly finished.

Execute SADbPopulate now to generate the administration database.Getting
the AnyMedia installation path... OK.

Starting SysAdmDbPopulate process...

Getting SystemAdmin Database path... OK.

Creating SystemAdmin Database... OK

Population successful.

Do you want to allow multiple sessions per user (default: y) [y,n,?,q]
```

24 Type y and press **Return**

```
The AnyMediaEM.sh file contains the variables initialization for NAM
Every time a terminal is opened to run NAM you must execute:

. /opt/lucent/AnyMediaEM_R3.2/cfg/AnyMediaEM.sh

or you can add this line to the anymedia .profile only once We strongly
recommend to add the line.

Do you want to add the AnymediaEM.sh in the anymedia .profile [y,n,?,q]
```

25 Type y and press **Return**

```
Navis AnyMedia EM R3.2 installation

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Please, choose the installation mode

1 ADM <Administration package>

2 GUI <Client package>

3 NB <Narrow Band package>

4 BB <Broad Band package>

5 IP <IP package>

6 EXIT <End installation>

Enter selection [?,??,q]:
```

END OF STEPS

Narrowband packages

1 Type 3 and press **Return**

```
Navis AnyMedia EM R3.2 installation

Please, choose one or more Band mode separated by blank

1 <LuAMNB16> NarrowBand

Enter selection [?,??,q]:
```

2 Type 1 and press **Return**

```
## Packages to install: <LuAMNB16>

Processing package instance <LuAMNB16> from
```

```
/cdrom/cd1/AnyMediaEMR3.2_30

AnyMedia NB Element Manager Release 3.2 for NE Releases 1.6.3 or later
(sparc) LuAMNB16_40.27.3

*****************************************************

* AnyMedia Element Manager *

* Copyright 1999-2005 Lucent Technologies. *

*****************************************************

Package LuAdmin SystemAdmin LuAdmin_70_3.4 has been found in

/opt/lucent/AnyMediaEM_R3.2

AnyMedia EM R3.2 path=/opt/lucent/AnyMediaEM_R3.2

Package <LuLUMRT> Lumos Build 3.0 run-time has been found in
/opt/lucent/LUMOS

OK, No previous package <LuAMNB16> has been found. Using
/opt/lucent/AnyMediaEM_R3.2 as the package base directory.

## Processing package information.

## Processing system information.

Installing AnyMedia NB Element Manager Release 3.2 for NE Releases 1.6.3
or later as <LuAMNB16>

## Installing part 1 of 1.

<files list>

.............

[ verifying class common ]

## Executing postinstall script.

Package <LuOSRT> ObjectStore 6.1 Runtime has been found in

/opt/lucent/ObjectStore

Creating data bases

You have the installation logfile in /tmp/EM_Install_LuAMNB16.log

Installation of <LuAMNB16> was successful.

Navis AnyMedia EM R3.2 installation Please, choose one or more Band mode
separated by blank

Please, choose the installation mode

1 ADM <Administration package>

2 GUI <Client package>

3 NB <Narrow Band package>
```

```
4 BB <Broad Band package>

5 IP <IP package>

6 EXIT <End installation

Enter selection [?,??,q]:
```

Type ? to get help, type ?? to repeat the prompt and type q to exit from the installation.

END OF STEPS

Broadband packages

1 Type 4 and press **Return**

```
Navis AnyMedia EM R3.2 installation

Please, choose one or more Band mode separated by blank

1 LuAMDATAB <BroadBand>

Enter selection [?,??,q]:
```

2 Type 1 and press **Return**

```
## Packages to install: LuAMDATAB

Processing package instance LuAMDATAB from

/cdrom/cd1/AnyMediaEMR3.2_30

AnyMedia BB Element Manager Release 3.2 for NE release 1.17 or later
(sparc) LuAMDATAB_80.26.3.1

*****************************************************

* AnyMedia Element Manager *

* Copyright 1999-2005 Lucent Technologies *

*****************************************************

Package >LuAdmin> SystemAdmin LuAdmin80_26.3.1 has been found in

/opt/lucent/AnyMediaEM_R3.2

AnyMedia EM R3.2 path=/opt/lucent/AnyMediaEM_R3.2

Package <LuLUMRT> Lumos Build 3.0 run-time has been found in

/opt/lucent/LUMOS

OK, No previous package LuAMDATAB has been found.

Using /opt/lucent/AnyMediaEM_R3.2 as the package base directory.
```

```
## Processing package information.

## Processing system information.

Installing AnyMedia BB Element Manager Release 3.2 for NE release 1.17
or later as <LuAMDATAB>

## Installing part 1 of 1.

<files list>

.............

[ verifying class common ]

## Executing postinstall script.

Package LuOSRT ObjectStore 6.1 Service Pack 2 Runtime has been found in

/opt/lucent/ObjectStore

Object Store path set to LuOSRT:ObjectStore:Release 6.1:6.1
Runtime:/bin:/lib:osversion:

Creating data bases

You have the installation logfile in /tmp/EM_Install_LuAMDATAB.log

Installation of LuAMDATAB was successful.

Navis AnyMedia EM R3.2 installation

Please, choose one or more Band mode separated by blank

1 ADM Administration package

2 GUI Client package

3 NB Narrow Band package

4 BB Broad Band package

5 IP IP package

6 EXIT End installation

Enter selection [?,??,q]:
```

END OF STEPS

IP packages

1 Type 5 and press **Return**

```
Navis AnyMedia EM R3.2 installation

Please, choose one or more Band mode separated by blank

1 LuAMIPA <IP>
```

```
Enter selection [?,??,q]:
```

2 Type 1 and press **Return**

```
## Packages to install: LuAMIPA
Processing package instance <LuAMIPA> from
/cdrom/cd1/AnyMediaEMR3.2_30
AnyMedia IP Element Manager Release 3.2 (sparc) LuAMIPA_70.3.4
*****************************************************
* AnyMedia Element Manager *
* Copyright 1999-2005 Lucent Technologies. *
*****************************************************
Package <LuAdmin> SystemAdmin LuAdmin_70_3.4 has been found in
/opt/lucent/AnyMediaEM_R3.2
AnyMedia EM R3.2 path=/opt/lucent/AnyMediaEM_R3.2
Package <LuLUMRT> Lumos Build 3.0 run-time has been found in
/opt/lucent/LUMOS
OK, No previous package LuAMIPA has been found.
Using /opt/lucent/AnyMediaEM_R3.2 as the package base directory.
## Processing package information.
## Processing system information.
Installing AnyMedia IP Element Manager Release 3.2 as <LuAMIPA>
## Installing part 1 of 1.
<files list>
.............
[ verifying class common ]
## Executing postinstall script.
Package LuOSRT ObjectStore 6.1 Service Pack 2 Runtime has been found in
/opt/lucent/ObjectStore
Object Store path set to LuOSRT:ObjectStore:Release 6.1:6.1
Runtime:/bin:/lib:osversion:
Creating data bases
You have the installation logfile in /tmp/EM_Install_LuAMIPA.log
Installation of LuAMIPA was successful.
```

```
# Create a ftp user for IP functionality: START
There is INTERNET daemon (inetd) for ftp
Default user for IP ftp actions in NAM is: ip_ftp
For IP FTP functionality a ftp user must be indicated.
Its login and password will be stored in ftpServer.cfg configuration
file for AMU_IP_A.
If you want to change its password also you must modify this
information in ftpServer.cfg file.
Login for IP ftp functionality? (Default: ip_ftp) [?,q]
```

3 Press **Return**

```
Selected ftp user is: ip_ftp
Password for IP ftp functionality? (Default: newuser1) [?,q]
```

4 Press **Return**

```
Selected ftp password is: newuser1
Creating IP ftp user as new user...
Now you must change the password for the new IP ftp user
#########################################################################
# Please, use the same password introduced previously (newuser1). #
#########################################################################
New Password:
Re-enter new Password:
passwd: password successfully changed for ip_ftp
## Create a ftp user for IP functionality: END
Navis AnyMedia EM R3.2 installation
Please, choose one or more Band mode separated by blank
1 ADM Administration package
2 GUI Client package
3 NB Narrow Band package
4 BB Broad Band package
5 IP IP package
6 EXIT End installation
```

```
Enter selection [?,??,q]:
```

END OF STEPS

Client package

1 Type 2 and press **Return**

```
Wait....
<machine IP address> has been the chosen server
Would you like to customize installation [y,n,?,q]
```

2 Type n and press **Return**

```
## Packages to install: <LuJRERT> <LuANYHL> <LuGUI30>
Processing package instance <LuJERT> from </cdrom/cd1/AnyMediaEMR3.2_30>
JRE 1.4 for AnyMedia EM R3.2 (sparc-solaris) 1.4
Using </> as the package base directory.
## Processing package information.
## Processing system information.
Installing JRE 1.4 for AnyMedia EM R3.2 as <LuJERT>
## Installing part 1 of 1.
```

<files list>

```
.............
[ verifying class <none> ]
## Executing postinstall script.
You have the installation logfile in
Installation of <LuJERT> was successful.
Processing package instance <LuANYHL> from
</cdrom/cd1/AnyMediaEMR3.2_30>
AnyMedia Element Manager Release 3.2 (Help) (sparc) LuANYHL__8.4
**************************************************
* AnyMedia Element Manager *
* Copyright 1999-2005 Lucent Technologies. *
**************************************************
Using </> as the package base directory.
```

```
## Processing package information.

## Processing system information.

Installing AnyMedia Element Manager Release 3.2 (Help) as <LuANYHL>

## Installing part 1 of 1.
```

<files list>

```
.............

[ verifying class <common> ]

## Executing postinstall script.

Installation of <LuANYHL> was successful.

Processing package instance <LuGUI30> from
</cdrom/cd1/AnyMediaEMR3.2_30>

AnyMedia Element Manager Release 3.2 (Client) (sparc) LuGUI30_71_8.4

*****************************************************

* AnyMedia Element Manager *

* Copyright 1999-2005 Lucent Technologies. *

*****************************************************

Using </opt/lucent/AnyMediaEM_R3.2> as the package base directory.

## Processing package information.

## Processing system information.

Installing AnyMedia Element Manager Release 3.2 (Client) as <LuGUI30>

## Installing part 1 of 1.
```

<files list>

```
.............

[ verifying class <common> ]

## Executing postinstall script. Package <LuJERT> jre 1.4 has been found
in /opt/lucent/JDK_1.4

************************************************************

* Execute ". AnyMediaEM_GUI.sh" to set the environment *

************************************************************

You have the installation logfile in /tmp/EM_Install.log_1629

Installation of <LuGUI30> was successful.

The AnyMediaEM_GUI.sh file contains the variables initialization for NAM
GUI (Client)Every time a terminal is opened to run a NAM GUI (Client)
you must execute:
```

```
. /opt/lucent/AnyMediaEM_R3.2/cfg/AnyMediaEM_GUI.sh enable
or you can add this line to the syi_int .profile only once.
We strongly recommend to add the line.
Do you want to add the AnyMediaEM_GUI.sh in the syi_int .profile
[y,n,?,q]
```

3 Type **y** and press Return

```
Navis AnyMedia EM R3.2 installation
Copyright 1999-2005 Lucent Technologies.
All Rights Reserved.
Please, choose one or more Band mode separated by blank
1 ADM <Administration package>
2 GUI <Client package>
3 NB <Narrow Band package>
4 BB <Broad Band package>
5 IP <IP package>
6 EXIT <End installation
Enter selection [?,??,q]:
```

4 Type 6 and press **Return** to exit the installation

```
Installation of Navis AnyMedia EM R3.2 was successful <EXIT side
installation>
```

END OF STEPS

□

Installation procedure (customized installation)

Start installation

Complete the following procedure to install the common software parts (customized).

1 Go to the directory where the installation script is placed on CD-ROM.

2 Type `./install_AEM 30` and press **Return**.

```
Navis AnyMedia EM R3.2 installation

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**Pre-requisites**

1.- Before attempting to install the application, please, read the
readme.txt file.

2.- Navis AnyMedia EM R3.2 runs on SUN SPARC Solaris 2 computers running
Solaris 2.9, plus security Y2000 patches as it is indicated in SRD.pdf
document

3.- TCP ports:

The following ports MUST be available in order to successfully run the
Navis AnyMedia EM:

* 1570: Orbix daemon uses the TCP port 1570 in order to wait for
incoming connections that use the Orbix protocol.

* 1591 to 1641: As Corba servers are activated by the Orbix daemon, they
are assigned a port so that clients can communicate with it.

It is essential that these ports are not used by any process on the SAME
SUBNET DOMAIN.

4.- The install_AEM script runs on K-shell <ksh> environment.

5.- At least the system environment variable PATH MUST include the paths
/usr/bin, /usr/sbin and /usr/ucb (for instance, export
PATH=$PATH:/usr/bin/:/usr/sbin:/usr/ubc).

******************

**DEFAULT-INSTALLATION-VALUES**

Base Path= /opt/lucent

Owner=anymedia, Group=lucent

Navis AnyMedia EM R3.2 installation

Copyright 1999-2005 Lucent Technologies.
```

```
All Rights Reserved.
Please, choose the installation mode
1 ADM <Administration package>
2 GUI <Client package>
3 NB <Narrow Band package>
4 BB <Broad Band package>
5 IP <IP package>
6 EXIT <End installation
Enter selection [?,??,q]:
```

Type `?` to get help, type `??` to repeat the prompt and type `q` to exit from the installation.

END OF STEPS

Administration package

1 Type `1` and press **Return**

```
Wait....
<Server IP address> has been the chosen server
Checking your domain name...
The DNS domain name found was: <domain name server>
Would you like to customize installation [y,n,?,q]
```

2 Type `y` and press **Return**

```
User and Group selection.
Select the running Solaris Naming Service:
1 NIS+
2 NIS
3 None
Enter selection [?,??,q]:
```

3 Type `1`, `2` or **3** and press **Return**

Note: NAM does not need NIS. If no NIS is available, type **3** and press **Return** to continue. Otherwise select the running NIS (type 1 or 2).

```
NBR USER:GROUP
1 anymedia:staff
2 root:other
3 syi_int:staff
4 ver1:staff
Enter selection [?,??,q]:
```

Note: The list above and the number *3* in the following step is an example. Other values may appear, depending on the system. Type always the number which represents the administrator user you have already created under the Solaris Operating Environment.

4 Type 3 and press **Return**

```
User: syi_int and Group: staff, have been selected
Where should AnyMedia be installed? [/opt/lucent] [?,q]
```

5 Type a valid path where the package files must be placed and press **Return** or press **Return** to accept the default path.

```
##Packages to install: <LuLUMRT>, <LuRWRT>, <LuOXRT>, <LuOSRT>,
<LuAdmin>
Processing package instance <LuLUMRT> from
</cdrom/cd1/CD1/AnyMediaEMR3.2_30>
Lumos Runtime for AnyMedia EM R3.2 (sparc-solaris) Build 3.0 run-time
Using </> as the package base directory.
## Processing package information.
## Processing system information.
Installing Lumos Runtime for AnyMedia EM R3.2 as <LuLUMRT>
## Installing part 1 of 1.
<files list>
.............
[ verifying class <none> ]
## Executing postinstall script.
You have the installation logfile in /tmp/EM_Install.log_7924
Installation of <LuLUMRT> was successful.
Processing package instance <LuRWRT> from
/cdrom/cd1/AnyMediaEMR3.2_30
```

```
RogueWave Libraries Runtimes for AnyMedia EM R3.2 (sparc) std0130u
thr0130u tls0710u tpr0112u

Using / as the package base directory.

## Processing package information.

## Processing system information.

Installing RogueWave Libraries Runtimes for AnyMedia EM R3.2 as <LuRWRT>

## Installing part 1 of 1.

<files list>

.............

[ verifying class none ]

## Executing postinstall script.

You have the installation logfile in

Installation of <LuRWRT> was successful.

Processing package instance <LuOXRT> from

/cdrom/cd1/AnyMediaEMR3.2_30

Orbix 3.3 SP 7 Runtime for AnyMedia EM R3.2 (sparc-solaris) 3.3 SP 7
Runtime

Using / as the package base directory.

## Processing package information.

## Processing system information.

Installing Orbix 3.3 SP 7 Runtime for AnyMedia EM R3.2 as <LuOXRT>

## Installing part 1 of 1.

<files list>

[ verifying class lib ]

## Executing postinstall script.

You have the installation logfile in /tmp/EM_Install.log_7958

Installation of <LuOXRT> was successful.

Processing package instance <LuOSRT> from

/cdrom/cd1/AnyMediaEMR3.2_30

ObjectStore 6.1 SP2 Runtime for AnyMedia EM R3.2 (sparc-solaris) 6.1
Runtime

Using / as the package base directory.

## Processing package information.

## Processing system information.
```

```
Installing ObjectStore 6.1 SP2 Runtime for AnyMedia EM R3.2 as <LuOSRT>
## Installing part 1 of 1.
<files list>
.............
[ verifying class none ]
## Executing postinstall script.
*******************************************************
* Remember execute "osconfig" to set the environment *
*******************************************************
You have the installation logfile in /tmp/EM_Install.log_8930
Installation of <LuOSRT> was successful.
Object Store configuration
The ObjectStore server on host <server name> is not available.
Are you installing on a server with more than 1 disk array (e.g. Sun
v480) [y,n,?,q]
```

6 Type y and press **Return**

```
*********************************************************************
It is recommended that the transaction log pathname will be located in a
physical disk different from the rest of the NAM installation.
*********************************************************************
Please take down the path for the transaction log and press enter to
continue...
The default copy of ObjectStore to configure is in
/opt/lucent/ObjectStore.
Is this the copy that you want to configure? [yes]
```

7 Press **Return**

```
ObjectStore includes shared libraries.
For ObjectStore applications and utilities to work, the dynamic linker
must be able to find them.
The recommended arrangement is to have symbolic links in
/usr/lib to the shared libraries. If you choose not to make these links,
then you will have to instruct all ObjectStore users to add
```

```
/opt/lucent/ObjectStore/lib to their LD_LIBRARY_PATH environment
variable.

WARNING: ObjectStore libraries already exist in /usr/lib.

If you choose not to make links in /usr/lib for the new libraries,

ObjectStore users may incorrectly link with old libraries.

Do you want to create links to ObjectStore libraries in /usr/lib? [yes]
```

8 Press **Return**

```
Since you have requested a File-database configuration,

you must give a pathname for the transaction log file.

Please enter the transaction log pathname :
```

Note: Depending on the number of NEs in the network the transaction log file can consume much memory space. The path in the following step is an example for installing transaction log under the main installation path. This is recommended if the number of NEs in the network is low. Otherwise the transaction log file should be put into a **separate partition**. In this case the corresponding path has to be used for the following step.

9 Type the path you want to create the transaction.log file.

E.g./opt/lucent/transaction.log and press **Return**.

```
Since no RAWFS was requested the program schema must be stored

in the local filesystem Please specify the directory where the program
schema databases will be stored.

[ default /opt/lucent/ObjectStore/lib/ ]:
```

10 Press **Return** or select an other path and press **Return**

```
You have configured this machine to run an ObjectStore server.

The server's transaction log is in /opt/lucent/transaction.log.

Do you want to proceed? [yes]
```

11 Press **Return**

```
Writing configuration files and initializing the server, please wait...

040702 143512.042 ObjectStore Release 6.1 Service Pack 2 Database Server

040702 143512.052 LOG 0001 There are no partitions specified in the
parameters file.
```

```
Only file databases will be accessible through this server.
Transaction log initialization complete.
040702 143516.033 ObjectStore Release 6.1 Service Pack 2 Database Server
The ObjectStore server is running.
Running ossetasp on program schema databases.
ossetasp /opt/lucent/ObjectStore/lib/liboscol.so
<server name>:/opt/lucent/ObjectStore/lib/liboscol.adb
ossetasp /opt/lucent/ObjectStore/lib/libosqry.so
<server name>:/opt/lucent/ObjectStore/lib/libosqry.adb
ossetasp /opt/lucent/ObjectStore/lib/libosse.so <server
name>:/opt/lucent/ObjectStore/lib/libosse.adb
ossetasp /opt/lucent/ObjectStore/lib/liboscmp.so
<server name>:/opt/lucent/ObjectStore/lib/liboscmp.adb
ossetasp /opt/lucent/ObjectStore/lib/libosalloc.so
<server name>:/opt/lucent/ObjectStore/lib/os_alloc.adb
ossetasp /opt/lucent/ObjectStore/bin/osload
<server name>:/opt/lucent/ObjectStore/lib/osload.adb
ObjectStore includes a server daemon which must be running
for any application to access an ObjectStore database.
It is recommended that you auto-start the daemon via commands
in your operating system startup scripts.
If you do not configure automatic startup,
you will have to start the server daemon by hand,
or re-run this utility to configure auto-start.
Would you like to configure automatic server startup and shutdown? [yes]
```

12 Press **Return**

```
Successfully created /etc/rc2.d/S80ostore4.
Successfully created link from /etc/rc2.d/K80ostore4 to
/etc/rc2.d/S80ostore4.
Note that you must manually remove or edit existing ObjectStore
scripts in /etc/rc2.d in some situations.
To run only current or previous version's file database clients,
```

```
remove all scripts from the previous version in /etc/rc2.d.
To run different version's clients with their corresponding Servers,
see the documentation on editing your OS_ROOTDIR/etc/ports file.
Please set the environment variable
OS_META_SCHEMA_DB=<server name>:/opt/lucent/ObjectStore/lib/metaschm.db
for any clients of server <server name>.
This script will now verify the configuration:
The ObjectStore server on host <server name> is alive.
The ObjectStore Server daemon process on <server name> is accessible..
Verifying schema databases on <server name>.......
Schema databases are accessible.
The cache manager launcher (/opt/lucent/ObjectStore/lib/oscminit6)
has correct modes and ownership. ObjectStore configuration completed.
Processing package instance <LuAdmin> from /cdrom/cd1/AnyMediaEMR3.2_30
AnyMedia Element Manager System Administration Release 3.2 (sparc)
LuAdmin_80_26.3.1
*******************************************************
* AnyMedia Element Manager *
* Copyright 1999-2005 Lucent Technologies. *
*******************************************************
Using </> as the package base directory.
## Processing package information.
## Processing system information.
Installing AnyMedia Element Manager System Administration Release 3.2 as
<LuAdmin>
## Installing part 1 of 1.
<files list>
.............
[ verifying class common ]
## Executing postinstall script.
Orbix 3.3 OrbixNames Java Utilities version 3.3 Service Pack 7 TP_14for
JDK 1.2.x/1.3.x/1.4.2
Checking AnyMedia EM R3.2 naming contexts
Starting CreateNER_db process...
```

```
Getting the AnyMedia installation path...
OK
Getting NER data base path
Creating NER data base
Creating NER groups root
Creating NER NEs root
Creating NER Agents root
OK
exit OK
Starting AMDbPopulate process...
Getting the AnyMedia installation path...
OK
Getting Alarm data base path
OK
Creating Alarm Data Base...
Db path:/opt/lucent/AnyMediaEM_R3.2/AM/db/AlarmDataBase.db
exit OK
Starting NPBDbPopulate process...
<files list>
.............
exit OK
Starting PCDbCreate process...
OK
exit OK
Getting the AnyMedia installation path...
using application_schema_pathname =
/opt/lucent/AnyMediaEM_R3.2/Security/db/SECDbSchema.adb
CREATE scenario
New Security database successfully created.
SECDbPopulate finished.
Reading configuration vars ...
Checking SIDServer is not running ...
Checking another SIDDbPopulate running ...
```

```
Creating SID Data Base...
SID database created successfully.
exit OK
Starting CreateSCH_db process...
Getting the AnyMedia installation path...
OK
Getting SCH data base path
Creating SCH data base
OK
exit OK
8344 Killed
orbixd daemon pid=8344 have been killed.
8350 Killed ns daemon pid=8350 have been killed.
Package <LuOXRT> OrbixMT 3.3 SP 7 Runtime has been found in
/opt/lucent/OrbixMT
Package <LuOSRT> ObjectStore 6.1 Service Pack 2 Runtime has been found
in
/opt/lucent/ObjectStore
Package <LuRWRT> RogueWave Tools and Threads std0130u thr0130u tls0710u
tpr0112u
has been found in /opt/lucent/rw
**********************************************
* Please execute *
* ". AnyMediaEM.sh" to set the environment *
**********************************************
You have the installation logfile in /tmp/EM_Install.log_8303
Installation of <LuAdmin> was successful.
***Boot processes***
Do you want to install the SystemAdmin process on the system boot
[y,n,?,q]
```

13 Type y and press **Return**

```
SystemAdmin will be placed on the system boot
```

```
Clean-up tasks for the AnyMedia-EM system will be executed every day at
2.00 AM.

Would you like change it [y,n,?,q]
```

14 Type n and press **Return**

```
Do you want to install the Backup process as a cron [y,n,?,q]
```

15 Type n and press **Return**

```
Do you want to install the Archive process as a cron [y,n,?,q]
```

16 Type n and press **Return**

```
anymedia cron file has been modified to add the AEM_cleanUp process

File /etc/init.d/EMR32.amas has been created Links
/etc/rc2.d/S99EMR32.amas

and /etc/rc2.d/K99EMR32.amas to /etc/init.d/EMR32.amas have been created

Existing configuration file renamed as SADbPopulate.cfg~
```

17

```
CONFIGURE NUMBER OF INSTANCES FOR AMUs

Input the number of instances for each AMU. Maximum total is 20
```

One AMU is equivalent to 100 NEs.

NOTE: The higher the number of instances you enter, the higher number of processes, the more machine performance is needed.

```
Maximum total is 20

Please, select the release

1 NB_R16 AMUs: 0

2 DATA_B AMUs: 0

3 IP_A AMUs: 0

4 end total AMUs:

Enter selection [?,??]:
```

18 Type 1 and press **Return**

```
How many AMUs do you wish? [?]
```

19 Type e.g. 1, which is equal to a maximum of 100 NB agents and press **Return**

```
Please, select the release
1 NB_R16 AMUs: 1
2 DATA_B AMUs: 0
3 IP_A AMUs: 0
4 end total AMUs: 1
Enter selection [?,??]:
```

20 Type 2 and press **Return**

```
How many AMUs do you wish? [?]
```

21 Type e.g. 1, which is equal to a maximum of 100 BB agents and press **Return**

```
Please, select the release
1 NB_R16 AMUs: 1
2 DATA_B AMUs: 1
3 IP_A AMUs: 0
4 end total AMUs: 2
Enter selection [?,??]:
```

22 Type 3 and press **Return**

```
How many AMUs do you wish? [?]
```

23 Type e.g. 1, which is equal to a maximum of 100 IP agents and press **Return**

```
Please, select the release
1 NB_R16 AMUs: 1
2 DATA_B AMUs: 1
3 IP_A AMUs: 1
4 end total AMUs: 3
Enter selection [?,??]:
```

24 Type 4 and press **Return**

```
SET VALUES FOR CONFIGURABLE NUMBER OF PROCESSES

_____________________________________________________

How many clients will be configured in the system ?

1 low ( 1 to 10 clients )

2 med ( 11 to 20 clients )

3 max ( 21 to 30 clients )

Enter selection [?,??]:
```

25 Type 1 and press **Return**

Note: The higher number of clients you enter the more machine performance is needed.

```
Number of processes set to low.

Do you agree with your selection? (Default: y) [y,n,?]
```

26 Type y and press **Return**

27 Type y and press **Return**

```
Adding selected AMUs to NarrowBand and Broadband packages ...

OK.

Creating common structure of ModuleGroupTypes, ModuleTypes and Services
...

OK.

Adding NB R1.6 instance number 1 ...

OK.

Adding DATA B instance number 1 ...

OK.

Adding IP A instance number 1 ...

OK.

Completing configuration ...

OK.

SADbPopulate.cfg customization successfuly finished.

Execute SADbPopulate now to generate the administration database.Getting
the AnyMedia installation path... OK.

Starting SysAdmDbPopulate process...
```

```
Getting SystemAdmin Database path... OK.
Creating SystemAdmin Database... OK
Population successful.
Do you want to allow multiple sessions per user (default: y) [y,n,?,q]
```

28 Type y and press **Return**

```
The AnyMediaEM.sh file contains the variables initialization for NAM
Every time a terminal is opened to run NAM you must execute:
. /opt/lucent/AnyMediaEM_R3.2/cfg/AnyMediaEM.sh
or you can add this line to the syi_int .profile only once
We strongly recommend to add the line.
Do you want to add the AnymediaEM.sh in the syi_int .profile [y,n,?,q]
```

29 Type y and press **Return**

```
installation
Copyright 1999-2005 Lucent Technologies.
All Rights Reserved.
Please, choose the installation mode
1 ADM <Administration package>
2 GUI <Client package>
3 NB <Narrow Band package>
4 BB <Broad Band package>
5 IP <IP package>
6 EXIT <End installation
Enter selection [?,??,q]:
```

END OF STEPS

Narrowband packages

1 Type 3 and press **Return**

```
Navis AnyMedia EM R3.2 installation
Please, choose one or more Band mode separated by blank
1 <LuAMNB16> NarrowBand
```

```
Enter selection [?,??,q]:
```

2 Type 1 and press **Return**

```
## Packages to install: <LuAMNB16>

Processing package instance <LuAMNB16> from

/cdrom/cd1/AnyMediaEMR3.2_30

AnyMedia NB Element Manager Release 3.2 for NE Releases 1.6.3 or later
(sparc) LuAMNB16_40.27.3

*****************************************************

* AnyMedia Element Manager *

* Copyright 1999-2005 Lucent Technologies. *

*****************************************************

Package LuAdmin SystemAdmin LuAdmin_70_3.4 has been found in

/opt/lucent/AnyMediaEM_R3.2

AnyMedia EM R3.2 path=/opt/lucent/AnyMediaEM_R3.2

Package <LuLUMRT> Lumos Build 3.0 run-time has been found in
/opt/lucent/LUMOS

OK, No previous package <LuAMNB16> has been found. Using
/opt/lucent/AnyMediaEM_R3.2 as the package base directory.

## Processing package information.

## Processing system information.

Installing AnyMedia NB Element Manager Release 3.2 for NE Releases 1.6.3
or later as <LuAMNB16>

## Installing part 1 of 1.

<files list>

.............

[ verifying class common ]

## Executing postinstall script.

Package <LuOSRT> ObjectStore 6.1 Service Pack 2 Runtime has been found
in

/opt/lucent/ObjectStore

Creating data bases

You have the installation logfile in /tmp/EM_Install_LuAMNB16.log

Installation of <LuAMNB16> was successful.
```

```
Navis AnyMedia EM R3.2 installation Please, choose one or more Band mode
separated by blank

Please, choose the installation mode

1 ADM <Administration package>

2 GUI <Client package>

3 NB <Narrow Band package>

4 BB <Broad Band package>

5 IP <IP package>

6 EXIT <End installation

Enter selection [?,??,q]:
```

Type `?` to get help, type `??` to repeat the prompt and type `q` to exit from the installation.

END OF STEPS

Broadband packages

1 Type 4 and press **Return**

```
Navis AnyMedia EM R3.2 installation

Please, choose one or more Band mode separated by blank

1 LuAMDATAB <BroadBand>

Enter selection [?,??,q]:
```

2 Type 1 and press **Return**

```
## Packages to install: LuAMDATAB

Processing package instance LuAMDATAB from

/cdrom/cd1/AnyMediaEMR3.2_30

AnyMedia BB Element Manager Release 3.2 for NE release 1.17 or later
(sparc) LuAMDATAB_80.26.3.1

*****************************************************

* AnyMedia Element Manager *

* Copyright 1999-2005 Lucent Technologies *

*****************************************************

Package >LuAdmin> SystemAdmin LuAdmin80_26.3.1 has been found in

/opt/lucent/AnyMediaEM_R3.2
```

```
AnyMedia EM R3.2 path=/opt/lucent/AnyMediaEM_R3.2

Package <LuLUMRT> Lumos Build 3.0 run-time has been found in

/opt/lucent/LUMOS

OK, No previous package LuAMDATAB has been found.

Using /opt/lucent/AnyMediaEM_R3.2 as the package base directory.

## Processing package information.

## Processing system information.

Installing AnyMedia BB Element Manager Release 3.2 for NE release 1.17
or later as <LuAMDATAB>

## Installing part 1 of 1.

<files list>

.............

[ verifying class common ]

## Executing postinstall script.

Package LuOSRT ObjectStore 6.1 Runtime Service Pack 2 has been found in

/opt/lucent/ObjectStore

Object Store path set to LuOSRT:ObjectStore:Release 6.1:6.1
Runtime:/bin:/lib:osversion:

Creating data bases

You have the installation logfile in /tmp/EM_Install_LuAMDATAB.log

Installation of LuAMDATAB was successful.

Navis AnyMedia EM R3.2 installation

Please, choose one or more Band mode separated by blank

1 ADM Administration package

2 GUI Client package

3 NB Narrow Band package

4 BB Broad Band package

5 IP IP package

6 EXIT End installation

Enter selection [?,??,q]:
```

END OF STEPS

IP packages

1 Type 5 and press **Return**

```
Navis AnyMedia EM R3.2 installation
Please, choose one or more Band mode separated by blank
1 LuAMIPA <IP>
Enter selection [?,??,q]:
```

2 Type 1 and press **Return**

```
## Packages to install: LuAMIPA
Processing package instance <LuAMIPA> from
/cdrom/cd1/AnyMediaEMR3.2_30
AnyMedia IP Element Manager Release 3.2 (sparc) LuAMIPA_70.3.4
*****************************************************
* AnyMedia Element Manager *
* Copyright 1999-2005 Lucent Technologies. *
*****************************************************
Package <LuAdmin> SystemAdmin LuAdmin_70_3.4 has been found in
/opt/lucent/AnyMediaEM_R3.2
AnyMedia EM R3.2 path=/opt/lucent/AnyMediaEM_R3.2
Package <LuLUMRT> Lumos Build 3.0 run-time has been found in
/opt/lucent/LUMOS
OK, No previous package LuAMIPA has been found.
Using /opt/lucent/AnyMediaEM_R3.2 as the package base directory.
## Processing package information.
## Processing system information.
Installing AnyMedia IP Element Manager Release 3.2 as <LuAMIPA>
## Installing part 1 of 1.
<files list>
.............
[ verifying class common ]
## Executing postinstall script.
Package LuOSRT ObjectStore 6.1 Runtime has been found in
```

```
/opt/lucent/ObjectStore

Object Store path set to LuOSRT:ObjectStore:Release 6.1:6.1
Runtime:/bin:/lib:osversion:

Creating data bases

You have the installation logfile in /tmp/EM_Install_LuAMIPA.log

Installation of LuAMIPA was successful.

# Create a ftp user for IP functionality: START

There is INTERNET daemon (inetd) for ftp

Default user for IP ftp actions in NAM is: ip_ftp

For IP FTP functionality a ftp user must be indicated.

Its login and password will be stored in ftpServer.cfg configuration

file for AMU_IP_A.

If you want to change its password also you must modify this

information in ftpServer.cfg file.

Login for IP ftp functionality? (Default: ip_ftp) [?,q]
```

3 Press **Return**

```
Selected ftp user is: ip_ftp

Password for IP ftp functionality? (Default: newuser1) [?,q]
```

4 Press **Return**

```
Selected ftp password is: newuser1

Creating IP ftp user as new user...

Now you must change the password for the new IP ftp user

##########################################################################

# Please, use the same password introduced previously (newuser1). #

##########################################################################

New Password:
```

5 Enter a new password and press **Return**

```
Re-enter new Password:
```

6 Re-enter the new password and press **Return**

```
passwd: password successfully changed for ip_ftp
## Create a ftp user for IP functionality: END
Navis AnyMedia EM R3.2 installation
Please, choose one or more Band mode separated by blank
1 ADM Administration package
2 GUI Client package
3 NB Narrow Band package
4 BB Broad Band package
5 IP IP package
6 EXIT End installation
Enter selection [?,??,q]:
```

END OF STEPS

Client package

1 Type `2` and press **Return**

```
Wait....
<machine IP address> has been the chosen server
Would you like to customize installation [y,n,?,q]
```

2 Type `y` and press **Return**

```
Enter the server name? <[server name>] [?,q]
```

3 Type the corresponding server name and press **Return** or press **Return** to accept the default name.

```
Wait....
Would you like to continue [y,n,?,q]
```

4 Type `y` and press **Return**

```
<servername IP address> has been the chosen server
User and Group selection.
Select the running Solaris Naming Service:
1 NIS+
```

```
2 NIS

3 None

Enter selection [?,??,q]:
```

5 Type `1`, `2` or **3** and press **Return**

Note: NAM does not need NIS. If no NIS is available, type **3** and press **Return** to continue. Otherwise select the running NIS (type 1 or 2).

```
NBR USER:GROUP

1 anymedia:staff

2 root:other

3 syi_int:staff

4 ver1:staff

Enter selection [?,??,q]:
```

Note: The list above and the number *3* in the following step is an example. Other values may appear, depending on the system. Type always the number which represents the administrator user you have already created under the Solaris Operating Enviroment.

6 Type `3` and press **Return**

```
User: syi_int and Group: staff, have been selected

Where should AnyMedia be installed? [/opt/lucent] [?,q]
```

7 Type a valid path where the package files must be placed and press **Return** or press **Return** to accept the default path.

```
Login for CutThrough functionallity? [?,q]
```

Note: The cut-through user should be a dedicated user only allowed to open telnet connections.

8 Type a valid login of an NAM user and press **Return**.

```
Password for CutThrough functionallity? [?,q]
```

9 Type a valid password of the same NAM user and press **Return**.

```
What is the name of the location? [?,q]
```

Enter any name. The location name will appear in the documents header of the printing facility.

10 Type your NAM location name (e.g. Tres Cantos Lab) and press **Return**.

```
Code for the representation of names of languages
Refer to ISO 639:1988 (E/F) for more information
1 da Danish
2 de German
3 fr French
4 it Italian
5 zh Chinese
6 es Spanish
7 en English
8 ja Japanese
Enter selection [?,??,q]:
```

11 Type 7 and press **Return**.

```
Code for the representation of names of countries
Refer to ISO 3166 for more information
1 DK DENMARK
2 DE GERMANY
3 FR FRANCE
4 IT ITALY
5 CN CHINA
6 ES SPAIN
7 GB UNITED KINGDOM
8 US UNITED STATES
9 JP JAPAN
Enter selection [?,??,q]
```

12 Type 8 and press **Return**.

```
Would you like include GUI idleness and shutdown time [y,n,?,q]
```

13

IF...	THEN...
you *do not* want to include GUI idleness and shut down time	type **n** and press **Return**. Goto step 19
you want to include GUI idleness and shut down time	type **y** and go to the next step

14 `GUI shutdown will be executed every day at 2.00 AM. Would you like change it?[y,n,?,q]`

15 Type `n` and press **Return**.

```
Please insert the period of time that GUI will be up before activating
the shutdown.

Default value 12 hours 00 minutes.

Enter hour (00-23):
```

16 Enter the desired value (e.g. `10`) and press **Return**.

```
Enter minute (00-59):
```

17 Enter the desired value (e.g. `30`) and press **Return**.

```
Please insert period of idleness allowed on GUI.

Default value 02 hours 00 minutes.

Enter hour (00-23):
```

18 Enter the desired value (e.g. `02`) and press **Return**.

```
Enter minute (00-59):
```

19 Enter the desired value (e.g. `15`) and press **Return**.

```
## Packages to install: <LuJRERT> <LuANYHL> <LuGUI30>

Processing package instance <LuJRERT> from
</cdrom/cd1/CD1/AnyMediaEMR3.2_30>

JRE 1.4 for AnyMedia EM R3.2 (sparc-solaris) 1.4

Using </> as the package base directory.

## Processing package information.
```

```
## Processing system information.

Installing JRE 1.4 for AnyMedia EM R3.2 as <LuJRERT>

## Installing part 1 of 1.

<files list>

............
```

The following output is the same as for the default installation (cf. "Installation procedure (default installation)" (p. 3-5)).

END OF STEPS

□

Post-install actions

General

To be able to start-up the NAM server it is necessary to set all necessary environment variables.

If you selected during installation to add the *AnyMedia.sh* script in the users profile execute the commands:

```
cd
. .profile
```

otherwise type

```
. <AnyMedia_path>/cfg/AnyMedia.sh
```

Note: The commands must be executed as NAM administrator user.

□

Report Translator

General

The *ReportTranslator* cron and the *NBReportTranslator* cron can be activated by executing the script*CronReportTranslator* (in *$ANYMEDIAPATH/cfg*). These crons can be deactivated by execution the script *cronupdate*.

Usage:

- log in as NAM administrator
- type: `cd $ANYMEDIAPATH/cfg`
- type: `su`
- enter root password
- run CronReportTranslator or cronupdate script file

□

Installing individual packages

General

The installation script `install_AEM` can be used to install individual packages and will take care of the installation dependencies (that is, if a needed package is not installed previously it will not allow to continue until you install it).

If the package is already installed on the target system, the following actions must be done:

- the package must be de-installed previously (refer to "Remove installation packages" (p. 3-55) for more information about packages de-installation)
- in order not to affect the rest of the installed packages, the package must be re-installed in the same directory as the previous one.

Installation dependencies are not the same as functional dependencies. In order to the NAM to work at least all the obligatory packages should be installed (third parties and common packages for the server and full client installation for the client).

System responses and inputs for this type of installation and for a full installation are similar. Only the following differences could be found:

- When an installation starts, the package checks if a previous installation of the package already exists in the system. If no previous package is found, the following message will appear:
  `OK, No previous package <Package_Name> has been found.`

If one of the following messages appears, the installation will stop without changes on the system:

- The following message appears if there is a previous package in the system that was completely installed and has the same version
  `Previous completely installed package <Package_Name> version: <Package_Version> has been found. And it is the same to the new one you want to install:<Package_Version>.`
- The following message appears if there is a previous package in the system that was partially installed and has the same version
  `Previous partially installed package <Package_Name> version: <Package_Version> has been found. And it is the same to the new one you want to install:<Package_Version>. But it is partially installed. Better to use pkgrm <Package_Version> and installed it again.`
- The following message appears if there is a previous package in the system that was (partially or completed) installed and has different version
  `Current administration requires that an unique instance of the <Package_Name> package be created. However, the maximum number of instances of the package which may be supported at one time on the same system has already been met. No changes were made to the system`

After this step, the installation looks for its packages dependencies. If a needed package is found the following message will appear:

```
Package <Package_Name> <Application_Name> <Application_Version> has been
found in <Application_Path>
```

If the package is not found, the installation will prompt about its installation path in order to check this path and the correct application version:

```
<Package_Name> needs <Application_Name> <Application_Version> to be
installed previously. If it isn't, Answer 'q' to next question and
install the package <Package_Name> otherwise provide the paths required.
What is the base path of <Required_Package_Name> <Package_version>
[?,q]?
```

When an input is provided the installation checks the path and the version of the application. If the path is invalid the following message will appear:

```
ERROR: Pathname does not exist.
```

If the version is invalid one of the following messages could appear:

```
Package <Required_Package_Name> has been found but INSTALL_PATH is not
defined
```

```
Package <Required_Package_Name> has been found but with version:
<Package_Version> not valid for <Package_Name>
```

In both cases, the installation will prompt again for the required package.

□

Cancel installation

General

There are two ways to cancel the installation, as follows:

- internal cancellation: when the `install_AEM` or `pkgadd` command detect through information files or installation scripts that something is invalid.
- external cancellation: if the administrator kill the process (`kill -9` or **Ctrl+C**).

In both cases, the system reports if files have been installed on the system. In this case, the administrator must use the `pkgrm` command to remove the installation. The script *remove_ANY* can also be used to remove the installed packages (cf. "Remove installation packages" (p. 3-55))

□

Remove installation packages

General

In order to remove any *AnyMedia®* package installations, the administrator must execute the script *remove_ANY 30*. This script works exactly the same way as the installation one and allows you (or the user) to remove full or partial installations and individual packages also.

Alternatively the script `./install_AEM 30 remove` can be used. This script asks you which parts inside the packages you want to remove.

When a package is removed, all files installed by it or created during the *AnyMedia®* operation, such as data bases and temporal data files, are erased in the target system.

Procedure

Complete the following procedure to remove the Administration package.

1 Go to the directory where the removal script is placed.

2 Type `./remove_ANY 30` and press **Return**.

```
*******************************************
WARNING
REMOVE MODE. In this mode you are going to remove packages.
*******************************************
AnyMedia EM R3.2 removal
Copyright 1999-2005 Lucent Technologies.
All Rights Reserved.
Please, choose the remove mode
1 ADM <Administration package removal>
2 GUI <Client package removal>
3 NB <Narrow Band package removal>
4 BB <Broad Band package removal>
5 IP <IP package removal>
6 EXIT <End removal>
Enter selection [?,??,q]
```

3 Enter 1 and press **Return**.

Note: The following procedure describes the removal of the ADM packages. Removal of the NB, BB, IP and GUI packages can be done in the same way.

```
The package <LuAdmin> is going to be removed from the system.

The package <LuAdmin> is going to be removed from the system.

## Packages to remove: LuAdmin

Removal of <LuAdmin> was successful.

The package <LuLUMRT> is going to be removed from the system.

The package <LuRWRT> is going to be removed from the system.

The package <LuOXRT> is going to be removed from the system.

The package <LuOSRT> is going to be removed from the system.

## Packages to remove: LuLUMRT LuRWRT LuOX23RT LuOXNSRT LuOSRT

Removal of <LuLUMRT> was successful.

Removal of <LuRWRT> was successful.

Removal of <LuOXRT> was successful.

Removal of <LuOSRT> was successful.
```

END OF STEPS

□

PC-GUI client installation

General

This type of installation uses the *AnymediaPCInstall_R3.2_GA.exe* file.

Note: For the NAM-GUI on PC the resolution of the graphic card must be at least 1280 × 1024 pixel. Otherwise some windows will not be displayed properly. For this resolution a 19 inch monitor is recommended.

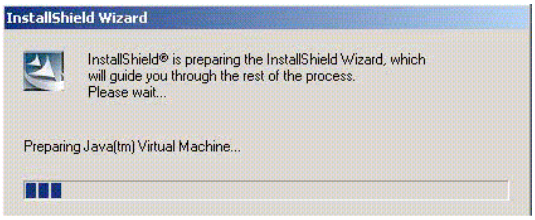
Procedure

PC-GUI is distributed on a file named *AnymediaPCInstall_R3.2_GA.exe*. This section contains instructions for installing the software from CD-ROM. Note that active Windows applications running in foreground or background (e.g. virus scanner) may interfere or slow down installation process. It is recommended to stop these applications during NAM PC-GUI installation process.

1 Insert CD-ROM.

2 Start installation by double clicking on **AnymediaPCInstall_R3.2_GA.exe**.

After clicking on **AnymediaPCInstall_R3.2_GA.exe**, if there is a compatible JVM, appears the InstallShield Wizard pops up followed by the NAM splash screen. If there is not a compatible JVM, a JVM is installed.

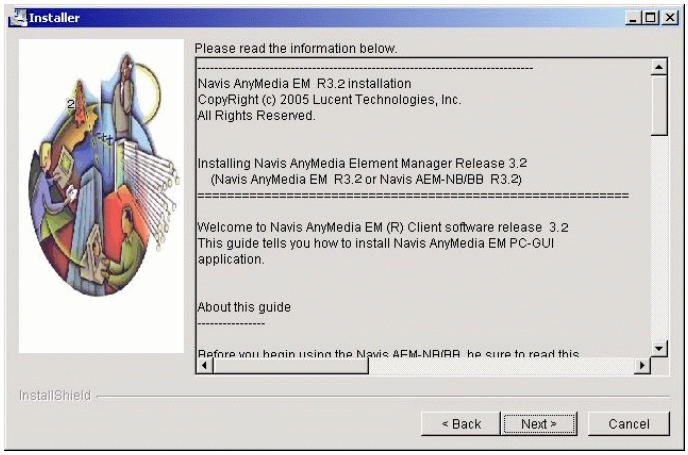

InstallShield Wizard
InstallShield® is preparing the InstallShield Wizard, which will guide you through the rest of the process.
Please wait...
Preparing Java(tm) Virtual Machine...

After that the **Welcome** screen is displayed providing some information about the version of the GUI load.

3 Click on **Next** to continue.

The **License Agreement** window pops up. Read carefully license agreement information, then click on **I accept the terms of license agreement** and click on **Next** to continue

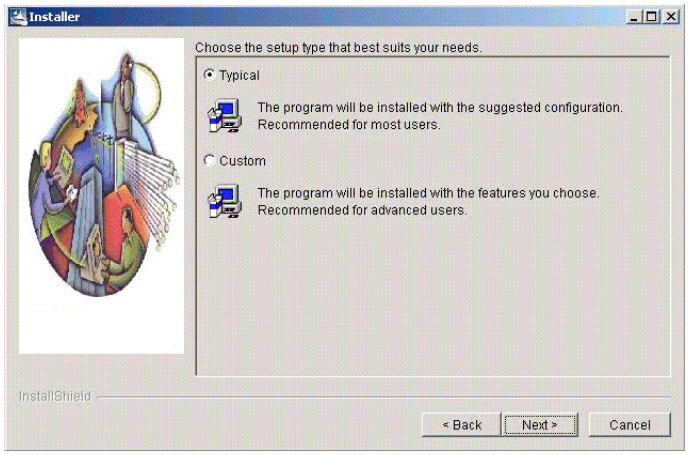
The **Readme Information** window pops up.


Installer
Please read the information below.
Navis AnyMedia EM R3.2 installation
CopyRight (c) 2005 Lucent Technologies, Inc.
All Rights Reserved.
Installing Navis AnyMedia Element Manager Release 3.2
(Navis AnyMedia EM R3.2 or Navis AEM-NB/BB R3.2)
Welcome to Navis AnyMedia EM (R) Client software release 3.2
This guide tells you how to install Navis AnyMedia EM PC-GUI application.
About this guide
InstallShield
< Back
Next >
Cancel

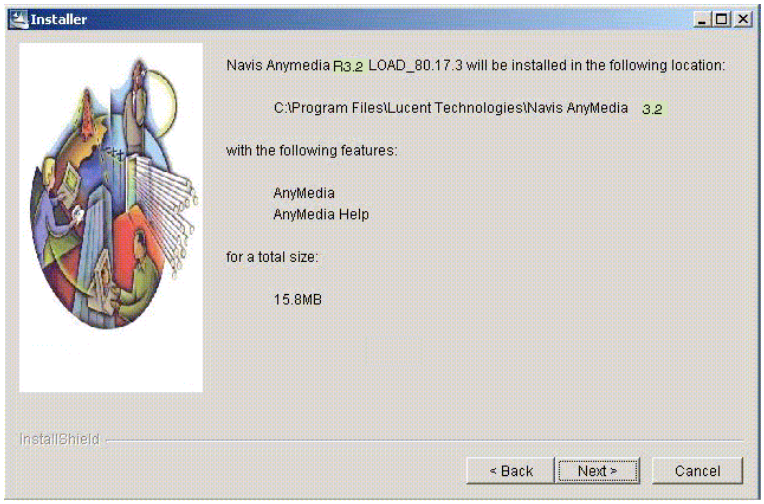
4 Read carefully information displayed, then click on **Next** to continue

5 Define the desired destination and click on **Next**.

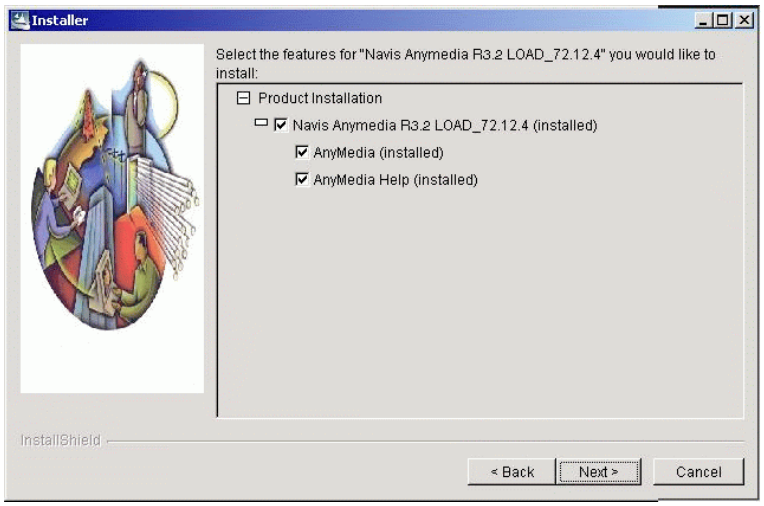
The **Installation Type** window pops up.


Installer
Choose the setup type that best suits your needs.
Typical
The program will be installed with the suggested configuration.
Recommended for most users.
Custom
The program will be installed with the features you choose.
Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

If *Typical* option is selected, *AnyMedia*® and *AnyMedia*® Help will be installed.



If Custom option is selected, **Feature Selection** window pops up.

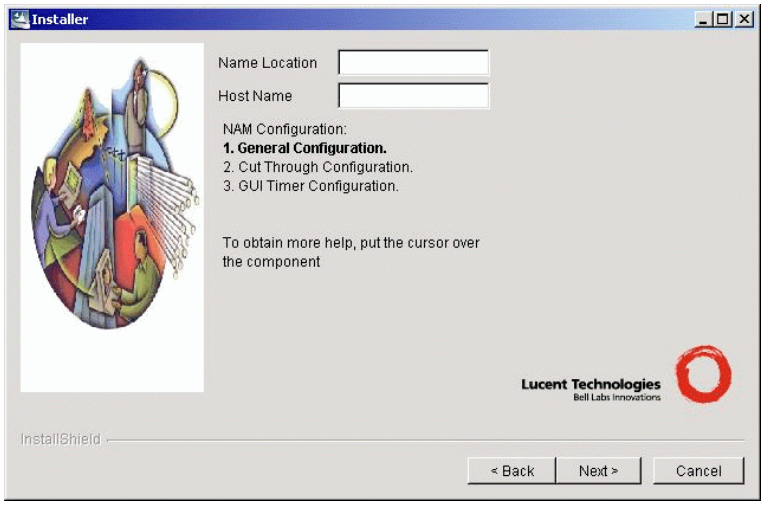


6 Select **AnyMedia** and/or **AnyMedia Help**, if you want to install this feature, and click on **Next**.

The **Ready to Install** window pops up displaying the items will be installed.

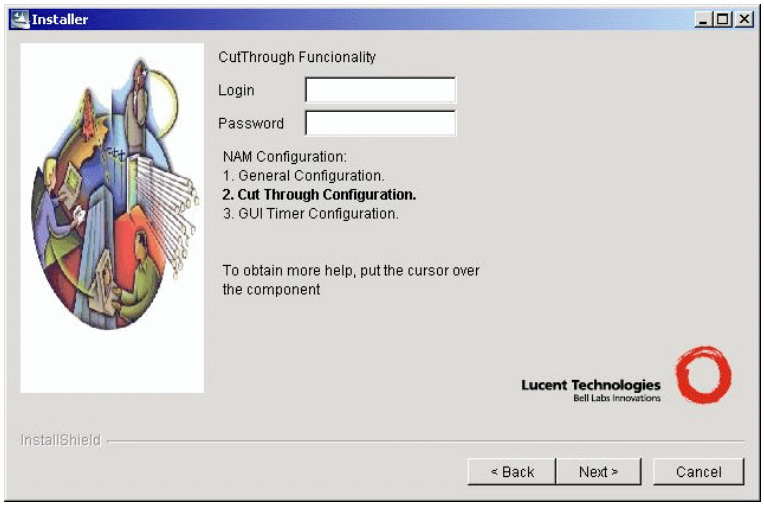
7 Click on **Next** to start the installation process.

When the installation is finished the **General Configuration** window pops up.



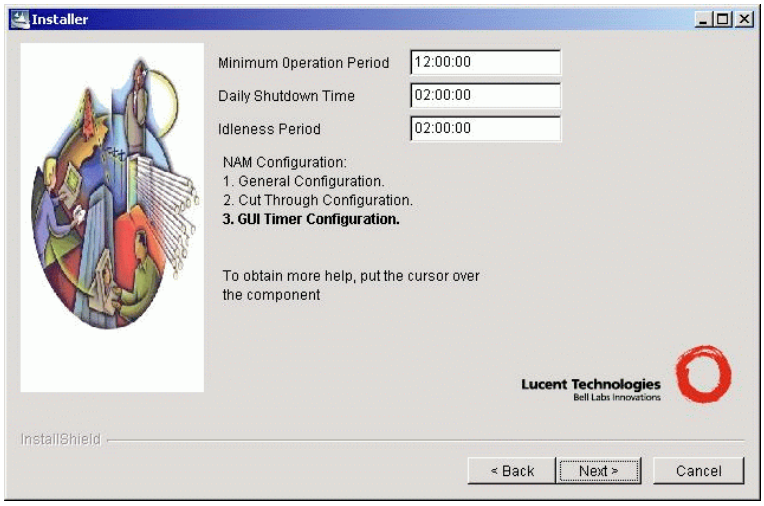
8 Enter the corresponding values into the fields **Name Location**, **Host Name** and click on **Next**.

9 Enter the corresponding values into the fields **Login** and **Password** of **CutThrough**



Functionality, and click on **Next**.

10 Enter the corresponding values into the fields **Minimum Operation Period**, **Daily**



Shutdown Time and **Idleness Period**, and click on **Next**.

A new window pops up informing about successfully installation.

Press **Finish** to exit the Installation wizard.

The PC-GUI installation is finished. The application can be executed via **Start/Programs/Anymedia/NAM**.

END OF STEPS

□

Run NAM R3.2 Update 2

General

Reboot the machine now. This will update the new values for the environment variables configured in the *AnyMedia.sh* script. The shell type must be ksh (Korn Shell).

Procedure

If the option to launch the NAM after reboot was not chosen during installation, the system must be started manually from the command line.

1 Type `$ANYMEDIAPATH/SystemAdministrator/bin/AEM_cleanUp`

Notice that NAM won't startup unless an appropriate license key is specified. A message in the standard output will indicate that the license is not valid. The operator can check license details in log files within the directory *$ANYMEDIAPATH/tmp*.

When all server applications are up and running, start NAM clients Then, a login and password is requested. The default password for all users is "newuser1". Users are advised to change the default password after logging in (refer to NAM Login in the User Service Manual for a detailed description on the clients' start-up procedure).

END OF STEPS

□

4 Upgrade from R3.0 to R3.2 Update 2

Overview

Purpose

This section describes the upgrade procedure of the NAM.

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NAM upgrade overview

General

This section describes the steps to upgrade an NAM from NAM R3.0 to R3.2 Update 2. These steps include the execution procedures.

It is assumed that before starting this upgrade procedure:

- The NEs are stable, meaning that no outstanding alarms are present in the NEs managed by the server to be upgraded and that no configuration changes will occur in parallel with the server upgrade
- There are no outstanding communication alarms or platform alarms active
- There is only one NAM server machine available. Therefore, the procedure is a single platform upgrade. NE management service will be affected since the server is shut down during the operation.
- Configuration databases are populated with data obtained from physical agents during the synchronization process following the upgrade
- NAM users are not changed during the upgrade.
- If the customer has a release older than NAM R3.0 GA, an intermediate upgrade to NAM R3.0 GA or any of its updates will be necessary. It will be also needed to verify that everything is working properly in this intermediate release in order to be able to apply the procedure described in this document.
- Check that only NEs whose release are listed in the NAM R3.2 Update 2 SRD document are going to be managed by NAM R3.2 Update 2. Other NE Releases not supported by the NAM R3.2 Update 2 shall not be able to be managed after the upgrade. If there are NE releases in your network which are not in the list of supported NE releases, actualize these NEs.
- Logs of previous NAM releases are discarded during the upgrade to R3.2 Update 2 due to format changes that prevent the LogViewer for displaying them appropriately. Nevertheless, an archive of these log files should be done.
- Clients and server have the appropriate operating system installed:
  Solaris 8 or Solaris 9 for the server and Solaris 8, Solaris 9, Windows XP/2000 for clients.
- ObjectStore commands or other specific applications can be used for databases migration.
- The user who carries out the upgrade procedure can log in as root in the client and server machines.
- Lets assume for the rest of the document that the Unix user with the administration permission of NAM (defined at installation time) is NAMadmin.
- If the upgrade is done in Windows platform (client side), there must exists a Windows user with the necessary permission to uninstall and install NAM client (Winuser).

In all the steps, if a temporary directory is used, it should be created outside of the NAM directory tree, since during the uninstallation of the software these directories will be deleted.

It is assumed that the person who performs the upgrade:

- Uses "Installation procedure" (p. 3-2) for details about the installation procedures and Backup and restore in the User Service Manual for details about the backup procedures
- Has available Solaris 9 Installation Manual
- a basic knowledge of UNIX system administration
- has a minimum knowledge of Windows 2000 and Windows XP.

□

Upgrade on the Server side

General

The upgrade procedure consists of four main steps:

- Save databases and relevant configuration files
- Uninstall previous NAM release
- Install NAM R3.2 Update 2
- Restore databases and relevant configuration files.

Databases to be backed up are:

- NER (*$ANYMEDIAPATH/NER/db/ner.db*)
- Security (*$ANYMEDIAPATH/Security/db/Security.db*)
- Performance Configuration (*$ANYMEDIAPATH/PerformanceConfig/db/Performance.db*)
- Subscriber Id Mapping (*$ANYMEDIAPATH/SID/db/sid.db*)

All NAM databases and relevant configuration files have to be backed up for safety reasons, in case a roll back is needed:

1. Generate a backup file of NAM databases and configuration files:
   `$ANYMEDIAPATH/Backup/bin/AEM_backup -f <file_name>`
2. Move the backup file to a backup directory:
   `mv $ANYMEDIAPATH/backup/<file_name> <save_directory>`
3. Generate an archive file of NAM log files:
   `$ANYMEDIAPATH/Backup/bin/AEM_archive -f <file_name>`
4. Move the archive file to a safe directory outside of the AnyMedia Element Manager directory tree:
   `mv $ANYMEDIAPATH/archive/<file_name> <safe_directory>`

□

Generate a list of scheduled tasks on NAM

Procedure

In order to maintain the scheduled tasks after the upgrade, it is needed to manually generate a detailed list of scheduled tasks before performing the upgrade. The steps are:

1 Open GUI client

2 Open Scheduler Window (Click on **Tools** → **Scheduler...** menu entry on Group and NEs Management window)

3 Select each provisioned scheduled task and click on **View Details...** button when applicable (**View Details...** button is enabled only on NVDS Backup tasks)

4 Annotate the details of each task so that it can be easily rescheduled after the upgrade.

END OF STEPS

□

Stop NAM

Procedure

Before shutting down the NAM server applications log out from NAM clients connected to the server.

1 Close the NAM access bar window to log out from NAM client

2 Log in as *NAMAdmin*.

3 Type `nohup SystemAdmin CLEAN` or `AEM_cleanUp shutdown` in the path *$ANYMEDIAPATH/SystemAdministrator/bin*.

END OF STEPS

□

Save NAM data bases (server)

Procedure

Proceed as follows:

1 Save Security database from installation path to a temporary directory <*temp_directory*>

- `oscopy $ANYMEDIAPATH/Security/db/Security.db <temp_directory>/Security.db`

2 Generate an ASCII file for the Performance database from installation path to a temporary directory.

```
osverifydb -o $ANYMEDIAPATH/PerformanceConfig/db/ Performance.db > <temp_directory>/Performance_db.txt
```

3 Generate an ASCII file for the NER database from installation path to a temporary directory.

```
osverifydb -o $ANYMEDIAPATH/NER/db/ner.db > <temp_directory>/ner_db.txt
```

4 Generate an ASCII file for the Subscriber Id Mapping (SID) database from installation path to a temporary directory.

```
$ANYMEDIAPATH/SID/bin/SIDDbPopulate -export <temp_directory/sid_db.txt
```

Type `y` and press `Return` when the program asks 'Confirm EXPORT the SID database (y/n):'.

END OF STEPS

□

Save NAM system variables and configuration parameters (server)

General

The NAM main system configuration file must be backed up in order to keep the changes that user have done.

Procedure

Proceed as follows:

1 Copy *AnyMediaEM.cfg* file from installation path to a temporary directory.

```
cp $ANYMEDIAPATH/cfg/AnyMediaEM.cfg <temp_directory>/
```

2 Copy *NBIDomains.cfg file* from installation path to a temporary directory.

```
cp $ANYMEDIAPATH/NBI/cfg/NBIDomains.cfg <temp_directory>/ .
```

3 Copy *NBStatCollector.cfg* file for AMU_NB_R16 from installation path to a temporary directory.

```
cp $ANYMEDIAPATH/AMU_NB_R16/cfg/NBStatCollector.cfg
<temp_directory>/NBStatCollectorR16.cfg
```

4 Copy *BBStatCollector.cfg* file for each installed AMU from installation path to a temporary directory

If the BB AMU DATA_B software is installed, type:

```
cp $ANYMEDIAPATH/AMU_DATA_B/cfg/BBStatCollector.cfg
<temp_directory>/BBStatCollectorDATAB.cfg
```

5 Additionally, if any other configuration file (those ended with "*.cfg*") has been changed by the user, proceed as follows:

Copy the *.cfg* file to the temporary directory. Be careful not to overwrite any other file already copied to the temporary directory with the same name. In that case, copy the file with another name or create subdirectories to be able to store files with the same name.

END OF STEPS

□

Save network profiles

General

The file containing non default network profiles has to be saved or copied in a temporary directory to populate the Network Profiles database after installing the new NAM release.

Procedure

Proceed as follows:

1 Change permissions of *NonDefaultsNPValues.cfg* file.

```
chmod 644 $ANYMEDIAPATH/NPB/cfg/NonDefaultsNPValues.cfg
```

2 Generate a new *NonDefaultsNPValues.cfg* file containing all non default network profiles stored in the database.

```
$ANYMEDIAPATH/NPB/bin/NPBDbPopulate $ANYMEDIAPATH/NPB
```

3 Copy *NonDefaultsNPValues.cfg* in a temporary directory.

```
cp $ANYMEDIAPATH/NPB/cfg/NonDefaultsNPValues.cfg <temp_directory> .
```

END OF STEPS

□

Uninstall previous NAM releases (server)

Procedure

Proceed as follows to remove all NAM server installed related items:

1 Login in as *root*

2 Execute the *remove_ANY 30* script to remove all NAM packages installed (refer to the previous NAM customer documentation).

Note: Execute the *remove_ANY 30* script provided with the NAM release to be removed. (e.g. when uninstalling NAM 3.0 GA, the *remove_ANY* script from NAM 3.0 GA load must be used, otherwise NAM might not be removed completely.)

END OF STEPS

□

Install NAM R3.2 Update 2

General

The NAM R3.2 Update 2 full installation installs all packages contained in the distribution necessary for both Server and Client sides.

Refer to “Installation procedure” (p. 3-2) for a detailed description of the installation procedure. It is important to install the NAM R3.2 Update 2 on the same directories as previously installed to avoid incompatibilities.

Do not reboot the server machine after the installation. Reboot only after all upgrade steps are finished.

□

Restore NAM databases and configuration files (server)

Procedure

Proceed as follows to restore the database and the config files:

1 Log in as *NAMAdmin*.

2 Regenerate the NER database from the <*temp_directory*> ASCII file to the new installation path.

```
rm -rf $ANYMEDIAPATH/NER/db/ner.db
$ANYMEDIAPATH/NER/bin/NERDbCreate -r <temp_directory>/ner_db.txt
```

3 Update NER database so that automatic agents reallocation is performed.

```
$ANYMEDIAPATH/NER/bin/NERDbUpdate ALL
```

4 Copy the Security database from the <*temp_directory*> ASCII file to the installation path.

```
oscopy <temp_directory>/Security.db $ANYMEDIAPATH/
Security/db/Security.db
```

5 Update Security database.

```
$ANYMEDIAPATH/Security/bin/SECDbPopulate <NAMadmin>
```

Type **y** and press **Return** in case the program asks you if you want to upgrade the security database.

6 Regenerate the Performance Configuration database from the <*temp_directory*> ASCII file to the new installation path.

```
rm -rf $ANYMEDIAPATH/PerformanceConfig/db/Performance.db
$ANYMEDIAPATH/PerformanceConfig/bin/PCDbCreate
$ANYMEDIAPATH/PerformanceConfig -r <temp_directory>/ Performance_db.txt
```

7 Change permissions of *NonDefaultsNPValues.cfg*.

```
chmod 644 $ANYMEDIAPATH/NPB/cfg/NonDefaultsNPValues.cfg
```

8 Copy *NonDefaultsNPValues.cfg* file from <*temp_directory*> to installation path.

```
cp <temp_directory>/NonDefaultsNPValues.cfg
$ANYMEDIAPATH/NPB/cfg/NonDefaultsNPValues.cfg
```

9 Update Network Profiles database with non default profiles.

```
$ANYMEDIAPATH/NPB/bin/NPBDbPopulateNonDefaults $ANYMEDIAPATH/NPB
```

10 Regenerate the SID database from the <*temp_directory*> ASCII file to the new installation path.

```
$ANYMEDIAPATH/SID/bin/SIDDbPopulate -r <temp_directory>/ sid_db.txt
```

Type **y** and press **Return** when the program asks `Confirm REPLACE the SID database (y/n):`.

11 Update the value of common options in *$ANYMEDIAPATH/cfg/AnyMediaEM.cfg* file of R3.2 Update 2 according to the file of the same name of previous NAM release.

12 Copy *NBIDomains.cfg* from <*temp_directory*> to installation path.

```
cp <temp_directory>/NBIDomains.cfg $ANYMEDIAPATH/NBI/cfg/
```

13 Update the value of common options in *NBStatCollector.cfg* for each AMU_NB_R16 of R3.2 Update 2 according to the file of the associated AMU of previous NAM release.

AMU	*Backed up Configuration File*
AMU_NB_R16	<temp_directory>/NBStatCollectorR16.cfg

14 Update the value of common options in *BBStatCollector.cfg* for each BB AMU of R3.2 Update 2 according to the file of the associated AMU of previous NAM release.

AMU	*Backed up Configuration File*
BB_DATA_B	*<temp_directory>/BBStatCollectorDATAB.cfg*

15 Additionally, if any other configuration file (those ended with "*.cfg*") from those mentioned so far in this section has been saved by the user in the temporary directory, update the value of the common options in the R3.2 Update 2 GA related configuration file according to the saved values.

16 Copy valid license file *license.dat* to installation path.

```
cp license.dat $ANYMEDIAPATH/cfg
```

17 Update NE names with forbidden characters. There are some characters that cannot be part of the name of the NE because they make some operations (like NVDS backup) to fail. There is an application to help the user to update the names of the NE in the upgraded NAM databases automatically.

```
$ANYMEDIAPATH/NER/bin/NENamesConversion
```

An interactive menu is shown with the following options:

```
(1) Get complete NE names list

(2) Get list of NE names with forbidden characters

(3) Get list of forbidden characters

(4) Automatic update

(5) Manual update

(q) Quit
```

Option `1` shows the complete list of the NE names stored in the NAM databases.

Option `2` shows the list of the NE names that contain not allowed characters. If the list is empty, then nothing else have to be done.

Option `3` shows the list of not allowed characters.

With option `4` the user can update all the not allowed NE names shown in option 2 automatically, provided that the user wants to substitute the forbidden characters for another allowed ones in all the NEs, i.e., perform the same substitution in all the NEs. The user just has to provide the substitution characters.

With option `5` the user can make a specific substitution per NE name listed in option 2, giving a new NE name, with allowed characters, for each NE name of option 2.

Finally, use option `q` to quit the application.

END OF STEPS

□

Modify NAM users minimum password length

Procedure

Minimum password length is set by default to 6 characters. This value can be modified in the range [3..8] by following the next steps:

1. Edit the file *$ANYMEDIAPATH/Security/cfg/Security.cfg* and set the value of the configuration variable `security.minimumPasswordLength` to the new minimum user password length value.

2. After a NAM system reboot (`$ANYMEDIAPATH/SystemAdministrator/bin/AEM_cleanUp`), the new password length value is active.

END OF STEPS

□

Run NAM R3.2 Update 2

General

Reboot the machine now. This will update the new values for the environment variables configured in the *AnyMedia.sh* script

Procedure

If the option to launch the NAM after reboot was not chosen during installation, the system must be started manually from the command line.

1 Type `$ANYMEDIAPATH/SystemAdministrator/bin/AEM_cleanUp`

Notice that NAM will not startup unless an appropriate license key is specified. A message in the standard output will indicate that the license is not valid. The operator can check license details in log files within the directory *$ANYMEDIAPATH/tmp*.

When all server applications are up and running, configuration databases will be populated with data retrieved from physical agents. This is the most stressing phase of the upgrade, so it is recommended to wait for 3 hours before starting NAM clients to avoid causing more stress to the system. Then, a login and password is requested. Valid logins are those existing in the system prior to the upgrade. The default password for all users is “newuser1”. Users are advised to change the default password after logging in (refer to NAM Login in the User Service Manual for a detailed description on the clients’ start-up procedure).

When Network Registry starts up, NB, BB and IP agents will be reallocated in their appropriate AMUs. These agents must be in MANAGED administrative state and after a while they must be synchronized. In case that an agent cannot establish association for a long time (several hours), its administrative state must be set to NOT MANAGED and next to MANAGED again.

2 A new NAM release can add new applications and tasks. Assign them to existing user groups appropriately as described in Assignment of user groups to applications/tasks in the User Service Manual.

3 Set password expiration policy for existing NAM users. On system upgrade, all existing NAM users shall be set to ″Password Never Expires″ policy. Proceed as follows if a password expiration policy wish to be assigned to a given user:

1. Open GUI client
2. Open System Administration Window
3. Select and Edit the User to be modified

4. Check the **Password Expires after ″n″ days** radio button and set the password expiration period for the given user.
5. Click on **OK** or **Apply** button to save the changes.

4 Recreate list of scheduled tasks on NAM according to the information collected before the upgrade (see "Generate a list of scheduled tasks on NAM" (p. 4-6)). Proceed as follows to schedule any of the following task types:

Telephony NVDS Backup:

1. Select a NE with NB Agent provisioned and select **Backup** → **Telephony** on NE Browser window pop-up menu.
2. Select the Target NEs, file name, path and backup type according to the information previously collected.
3. Click on **Scheduled** tick box and fill up the fields according to the information previously collected.
4. Click on **Apply** button to provision the scheduled task.

Data NVDS Backup:

1. Select a NE with ATM agent provisioned and select **Backup** → **Data** on NE Browser window pop-up menu.
2. Select the Target NEs, file name, path and backup type according to the information previously collected.
3. Click on **Scheduled** tick box and fill up the fields according to the information previously collected.
4. Click on **Apply** button to provision the scheduled task.

Network Inventory:

1. Open Network Inventory Window (Click on **Tools** → **Network Inventory...** menu entry on Group and NEs Management window)
2. Click on **Scheduled** tick box and fill up the fields according to the information previously collected.
3. Click on **Apply** button to provision the scheduled task.

5 Delete all temporary files and directories created in previous steps.

END OF STEPS

□

Upgrade on client side (workstation with Solaris)

General

The upgrade procedure of the client consists of the following main steps:

- Save relevant configuration files
- Uninstall previous NAM release client
- Install NAM R3.2 Update 2
- Restore relevant configuration files.

Optional: Enable two features for release 2.2 onwards:

- enable Multiple Server Access feature
- enable Connected NAM Server Display feature

Depending on whether the client is installed on Solaris platform or Windows platform, there are some differences.

In both cases, there will be files that can be modified by the user although they are not compatible between releases. These files will also be backed up to help to the user to customize the new version of these files with the old values of options that are compatible with the new release. On the other hand, the upgrade of the client side can be done before or after the upgrade of the server side. Before starting the upgrade of the client side, the user must logout of NAM.

□

Save the relevant GUI files (client upgrade/Solaris)

Procedure

Proceed as follows to save the relevant GUI files:

1 Log in as NAM administrator in the client machine.

2 Copy the following files to a temporary directory (keeping the same directory hierarchy) located in a file system by performing the following steps:

- `mkdir -p <temp_directory>/config`
- `mkdir -p <temp_directory>/icons`
- `mkdir -p <temp_directory>/backgrounds`
- `cp <GUI_directory>/config/SystemPreferences.ini <temp_directory>/config`
- `cp <GUI_directory>/config/AnyMedia.ini <temp_directory>/config`
- `cp <GUI_directory>/icons/*.* <temp_directory>/icons`
- `cp <GUI_directory>/backgrounds/*.* <temp_directory>/backgrounds`
- `cp <GUI_directory>/config/AvailableServers.ini <temp_directory>/config`(Only applicable if Multiple Server Access feature is enabled)

END OF STEPS

□

Uninstall previous NAM release (client upgrade/Solaris)

Procedure

Proceed as follows to remove all NAM Solaris related items:

1. Log in as root

2. Execute the `remove_ANY 30` script provided with the NAM release to be removed.

3. Select the uninstall option *GUI <Client package removal>*

4. Following packages are uninstalled automatically for NAM R3.0 GA (and updates): LuANYHL, LuJRERT, LuGUI30.

END OF STEPS

□

Install NAM R3.2 Update 2 (client upgrade/Solaris)

Procedure

Proceed as follows to install NAM R3.2 Update 2:

1 Execute (within the root user) the *install_AEM 30* script (cf. “Installation procedure (default installation)” (p. 3-5)).

2 Select the install option *2 GUI <Client package installation>*

3 Install the following packages: LuJRERT LuANYHL LuGUI30. (cf. “Client package” (p. 3-23))

END OF STEPS

□

Restore relevant GUI files (client upgrade/Solaris)

Assumption

You must be logged in as NAMadmin user.

Procedure

Proceed as follows to restore the GUI files for NAM R3.2 Update 2:

1 Change the user rights and copy the following files from the temporary directory to the corresponding NAM R3.2 Update 2 directory:

- `chmod 644 < GUI_directory> /icons/*.*`
- `cp <temp_directory>/icons/*.* <GUI_directory>/icons`
- `chmod 444 < GUI_directory> /backgrounds/*.*`
- `cp <temp_directory>/backgrounds/*.* <GUI_directory>/backgrounds`

2 Update the value of common options in *SystemPreferences.ini* file located in *<GUI_directory/config* of R3.2 Update 2 according to the file of the same name of previous NAM release.

3 Update the value of options in *AnyMedia.ini* file located in *<GUI_directory/config* of R3.2 Update 2 according to the file of the same name of previous NAM release.

4 Copy the *AvailableServers.ini* configuration file from the temporary directory to the appropriate installation path (Only applicable if Multiple Server Access feature is enabled) by entering:

```
cp <temp_directory>/config/AvailableServers.ini <GUI_directory>/config
```

END OF STEPS

□

Enable Multiple Server Access feature (client)

Procedure

Proceed as follows to enable this feature:

1 Edit the file *<GUI_directory>/config/SystemPreferences.ini* and set the value of the configuration variable `MULTIPLE_SERV_ACCESS_ENABLED = true`

2 Edit the file *<GUI_directory>/config/AvailableServers.ini* and include a new line per server with the following format:

[NAM server hostname] [Server Description]

Where:

- *[NAM server hostname]*: hostname of the server machine
- *[Server Description]*: Optional free text description field

END OF STEPS

□

Enable Connected NAM Server Display feature (client)

Procedure

Proceed as follows to enable this feature:

1 Edit the file <*GUI_directory*>*/config/SystemPreferences.ini* and set the value of the configuration variable *SERV_NAME_DISPLAY_ENABLED = true*

END OF STEPS

□

Upgrade on client side (client upgrade/Windows)

General

The upgrade procedure of the client consists of the following main steps:

- save relevant GUI files
- uninstall previous NAM releases
- install NAM R3.2 Update 2
- restore relevant GUI files.

Optional: Enable two features:

- enable Multiple Server Access feature
- enable Connected NAM Server Display feature

Depending on whether the client is installed on Solaris platform or Windows platform, there are some differences.

In both cases, there will be files that can be modified by the user although they are not compatible between releases. These files will also be backed up to help to the user to customize the new version of these files with the old values of options that are compatible with the new release. On the other hand, the upgrade of the client side can be done before or after the upgrade of the server side. Before starting the upgrade of the client side, the user must logout of NAM.

□

Save relevant GUI files (client upgrade/Window)

Procedure

Proceed as follows to save the relevant GUI files:

1 Log in as *Winuser* in the client machine.

2 Copy the following files to a temporary directory (by using the DOS interpreter or Windows Explorer. The related subdirectories must be previously created):

- `copy <GUI_directory>\config\SystemPreferences.ini <temp_directory\config`
- `copy <GUI_directory>\config\AnyMedia.ini <temp_directory\config`
- `copy <GUI_directory>\icons\*.* <temp_directory\icons`
- `copy <GUI_directory>\backgrounds\*.* <temp_directory\backgrounds`
- `copy <GUI_directory>\config\AvailableServers.ini <temp_directory\config`
  (Only applicable if Multiple Server Access feature is enabled)

END OF STEPS

□

Uninstall previous NAM release (client upgrade/Windows)

Procedure

Proceed as follows to remove all PC client related items:

1 Open the Windows Control Panel.

2 Double click on **[Add/Remove Programs]**.

3 Select the proper GUI software to uninstall (“Anymedia GUI RX.X LOAD X.X.X”) from the list and click on the **Change/Remove** button on Windows 2000 or Windows XP.

4 Follow the instructions in the Uninstall Wizard.

5 Remove manually the remaining NAM client files by using the Windows Explorer and deleting the <*GUI_directory*> folder.

END OF STEPS

□

Install NAM R3.2 Update 2 (client upgrade/Windows)

Install the PC-GUI R3.2 Update 2 as described in “PC-GUI client installation” (p. 3-57).

□

Restore relevant GUI files (client upgrade/Windows)

Procedure

Proceed as follows to restore the GUI files for NAM R3.2 Update 2:

1 Copy the following files from the temporary directory to the corresponding NAM R3.2 Update 2 directory by performing the following steps:

- `copy <temp_directory>\icons\*.* <GUI_directory>\icons`
- `copy <temp_directory>\backgrounds\*.* <GUI_directory>\backgrounds`

2 Update the value of common options in *SystemPreferences.ini* file of R3.2 Update 2 according to the file of the same name of previous installation.

3 Update the value of common options in *AnyMedia.ini* file of R3.2 Update 2 according to the file of the same name of previous installation.

4 Copy the *AvailableServers.ini* configuration file from the temporary directory to the appropriate installation path (Only applicable if Multiple Server Access feature is enabled) by entering:

```
copy <temp_directory>\config\AvailableServers.ini <GUI_directory>\config
```

5 “Enable Multiple Server Access feature (client)” (p. 4-24)

6 “Enable Connected NAM Server Display feature (client)” (p. 4-25)

END OF STEPS

□

Roll Back procedure

Assumption

In case a major failure during the upgrade procedure prevents bringing into service the newly installed NAM release, the backup done in section “Upgrade on the Server side” (p. 4-5) will allow performing a roll back so that the management of the *AnyMedia* shelves can be restored quickly.

Procedure

1 Uninstall NAM R3.2 Update 2

2 Install the original NAM release

3 Use AEM_restore, as explained in the Restore procedure (see User Service Manual) to restore the NAM backup.

END OF STEPS

□

Glossary

A

a-wire

One of the two wires of a twisted a/b copper pair. The a/b copper pairs are used for subscriber lines connected for example with Z interfaces, U interfaces or ADSL interfaces. The a-wire is sometimes called tip-wire.

Administrative State

A nominal service state typically set by the operator. The administrative state is non-volatile data, i.e. it survives system crashes.

AFM

Access Feeder Multiplexer

Alarm

Any condition that needs operator attention, since it may impact the normal operations of any system under operator responsibility (e.g. Element Manager, Network Element).

AnyMedia Access System

This is also referred to as the Network Element or just the NE.

APOG

Applications, Planning, and Ordering Guide

Application

Group of one or more modules that offer related functionality.

Application Pack (AP)

A circuit pack which provides the line-side interface functionality. APs are located in any of the AP slots of the *AnyMedia* Access System. APs are for example LPZ100, LPU112, TAP100 as well as ADSL and AFM packs for ATM xDSL applications.

Archive

Process of copying file systems to removable media (such as tape) and deleting the original files once they have been backed up.

ASCII

American Standard Code for Information Interchange

ATM

Asynchronous Transfer Mode

AUTO

Automatic

B

Backup

Process of copying file systems to removable media (such as tape) to safeguard against loss, damage, or corruption.

C

CD

Compact Disk

CDE

Common Desktop Environment

Client

An entity that initiates requests to a server. For the *AnyMedia* Access System a client could be a PC with a GUI interface, a telnet session or an OS (like the AEM-NB).

Common Data and Control Pack (COMDAC)

Common Data and Control - Plug-in which provides the central control and transmission fabric for the AnyMedia Access System. The COMDAC supports multiple system applications, including V5.x switched services and analog and digital leased lines (ALL and DLL) and a variety of application packs.

CORBA

Common Object Request Broker Architecture

D

Date

This refers to the day, month, and year and represents a calendar function that needs to include a calculation for leap years and a capability of determining the day of the week from the date, and must be Y2K compliant.

DB

Database

Defaults

Defaults are the parameter values built into the *AnyMedia* Access System when it is shipped from the factory. The sum of all defaults forms the default configuration. (Default values are restored upon execution of an Initialize-System command.) For TL1 commands there are defined defaults for parameter values which are used for parameters not given in the command line.

Distributed Module Group (DMG)

Set of module groups of the same type distributed to provide load balancing and protection features.

DLL

Digital Leased Line

Download

The process of moving information from a server to a client at the request of a client according to client/server paradigm. Expected applications of this capability are database retrievals.

E

E1

E1 is the standard acronym for the 2.048-Mbit/s interface defined in the ITU-T Recommendations G.703/G.704.

Entity

The term entity or object represents an entry in a TL1 administrative view, i.e. an entity (or object) may be entered, changed, deleted or retrieved by a TL1 command.

F

FTP

File Transfer Protocol

Full Backup

This copies a complete file system or directory.

G

GSI (Graphical System Interface)

Graphical System Interface - A user-friendly front-end for communicating with a system. In the *AnyMedia* Access System the GSI is installed on a Windows personal computer and used for entering and receiving TL1 (Transaction Language 1) messages.

The GSI provides support for managing the *AnyMedia* Access System in the following functional areas

- Configuration management
- Fault management
- Performance management
- Security management
- Inventory management

GUI

The Graphical User Interface of the *AnyMedia* Element Manager System.

H

Host

A machine where one or more modules are installed.

Hub or Multiport Repeaters

These have 8, 12, 16 or more ports. With their help multiple devices with 10BASE-T interface can be connected to a single LAN. They have at least one additional port for

connecting an additional segment of a LAN.

HW

Hardware

I

ICC

Inter Changeability Code

ID

Identifier

IEEE

Institute of Electrical and Electronics Engineers

Incremental Backup

This copies new files and files that have changed since a previous backup. The incremental backups are usually given a dump level which determines which files are backed up. A certain level incremental backup will save all the new or changed files since the last backup with a lower level.

Inventory

The inventory is the summary of data stored on a plug-in in the NVDS during manufacturing which is used to identify the plug-in and its functionality.

IP

Internet Protocol

IP Addresses

These are distributed according to the worldwide or local configuration. The IP address is used in ISO layer 3. A LAN contains tables for making an assignment between MAC address and IP address.

ISDN

Integrated Services Digital Network

ITU

International Telecommunication Union

L

LAN

Local Area Network

LCN

Local Communication Network

LED

Light Emitting Diode

LOG file

This is the file used for listing all actions that have occurred in a system. This information is generated and recorded concurrently and sequentially as transactions and events are processed in the system.

M

MAC Address

This is a 6-byte hardware address, which identifies an unique participant worldwide in an Ethernet LAN. A MAC address is used in OSI layer 2.

Module

Executable that provides a subset of services in the NAM and describes a way to handle its process instances.

Module Group

Set of modules with strong functional dependencies that influence the way they are installed and managed.

MR

Modification Request

N

NAM

Navis™*AnyMedia*® Element Management System (NAM)

NAM User

An entity defined via login name that can be assigned at least to an NAM user group.

NAM User Group

A logical group of EM users enabled to access one or more “domains”. Permissions to access domains, applications and tasks are administered on an EM user group basis.

NB

Narrowband

NE

AnyMedia Access System Network Element.

NMS

Network Management System

NVDS (Non-Volatile Data Storage)

This refers to a capability of the *AnyMedia* Access System to store information in such a way as to survive indefinite periods of total power failure. The current values for all provisionable parameters are stored in the NVDS and hence are the parameter values that will be used on subsequent NE power-up.

NVPS (Non-Volatile Program Storage)

This keeps software program data. It resides in the COMDAC.

O

OAM

Operations, Administration and Maintenance

Off-line Backups

These are backups performed automatically via any scheduling mechanisms, e.g. cron file.

OMG

Object Management Group

On-line Backups

These are backups performed on user demand.

Operational State

The operational state is determined autonomously by the system, often but not exclusively relative to an administrative state. It is volatile and is re-determined in case of recoveries.

Operator

This refers to the AnyMedia Element Manager users.

Operator Mode

Testing initiated by staff from the NAM using the NE-integrated capabilities. These tests can last some time, e.g., some measurements can be executed several times during a test session. The results in this mode usually are values (e.g. resistance, voltage, ...) and pass/fail decisions.

OS

This is any operations system or NAM connected to the *AnyMedia* Access System by some means of communication. For the NAM R2.1 the communication method is TCP/IP.

Overload

The load that causes the system to take drastic measures to ensure its integrity. During overload normal system function is disrupted and certain inputs (the ones causing the overload) are ignored. After clearing the overload situation, the system is left in asynchronous state for those inputs that generated the overload. Re-synchronization of this input retrieves synchronization.

P

Package

Logical parts of the NAM which provide specific functionality and can be started up, used and shutdown independently. There are different types of packages: Narrowband package, Broadband package and Administration package.

Password (PID)

Character string used to authenticate the identity of a user. The password should consist of 6 to 10 case sensitive alphanumeric characters, it should be changed frequently, it is stored and transmitted in an encrypted form.

PC

Personal Computer

Plain Old Telephone Service (POTS)

The conversional 2-wire analog subscriber service.

Platform

The hardware on which any NAM module, server or client, is running

POTS (Plain Old Telephone Service)

The conversional 2-wire analog subscriber service.

R

RAM

Random Access Memory

Restore

The process of copying backup files from removable media to a working directory, replacing the original files which could have been damaged.

ROM

Read Only Memory

Router

A network layer device that forwards packets from one network to another based on network layer information (OSI layer 3). Data packets are only transferred through the router if the participant is connected to another port of the router. With a router, data traffic can be kept from certain parts of a LAN. A router is more powerful than a bridge, it reduces the traffic on a LAN more than a bridge, because the IP address is evaluated for traffic control.

S

Server

A network element that waits for requests from clients to perform specific tasks. This is the function performed by the AnyMedia Access System.

Server Application

This is a set of server processes that perform a certain function.

Service State (of an object or entity)

This represents the current availability status of an associated resource or service in the NE from the management point of view (e.g., memory administration, maintenance).

SNMP

Simple Network Management Protocol

Software Download

The transport of the information required to upgrade/update a given NE's generic program.

SW

Software

T

TCP

Transmission Control Protocol

TELNET

This ia a remote terminal interface protocol which allows remote login capability into a system on a network from any other node on that network that is also running TELNET. TELNET is a TCP/IP application.

TL1 (Transaction Language 1)

This is a Bellcore standard message language. It is the primary means of operating and maintaining the V5DLC system. A TL1 message session supports bi-directional message transmission and when a TL1 link is established, the system can initiate autonomous messages to monitor alarms and changes in system status.

U

Upgrade

Is a type of migration where the software release is changed from an earlier release to a later release.

User

The operator who will use the EM to provision, maintain and monitor the *AnyMedia* Access System.

V

VC

Virtual Connection

W

WAN

Wide Area Network

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